

Radio in Elementary Education

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PRINTED IN THE UNITED STATES OF AMERICA

(4 A 8)

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FOR OUR MOTHERS

Clarissa R. Willey and Magdalene A. Young

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Preface

IN LITTLE MORE than a quarter of a century, radio broadcasting has become one of the most powerful of social institutions. Radio enters most of the homes and many of the classrooms of our nation and is extending the experiences and widening the horizons of all who listen. Not only is radio a factor in the world in which the child must develop, but it may also serve as an aid in this very growth.

If the teacher is to assist in the complex process of social adjustment of his pupils, it is imperative that he understand radio as one of our folkways and recognize its contributions to his own living and to the emotional and intellectual interests and behavior of his students. The teacher may introduce radio (and its sister art, recording) into his classroom, or he may rely entirely upon the children's out-of-school listening. He should understand the possibilities and the limitations of radio, both in specific areas of instruction and in general experiences of enrichment.

The teacher deserves every aid to make his work more vital, more efficient, more rewarding, and we believe that radio may offer challenging assistance.

We wish to express our appreciation to the various boards of education, directors of schools-of-the-air, and to the national and regional networks, the individual stations, and the broadcasting agencies for their generous cooperation in allowing us to examine and use their publications. We also acknowledge our gratitude to the several publishers and periodicals which granted us permission to reprint material. May we give special thanks to Mrs. Magdalene A. Young for her advice and her generous assistance.

ROY DEVERL WILLEY
HELEN ANN YOUNG

Contents

Part I

RADIO — A DYNAMIC EDUCATIONAL FORCE

- | | |
|--|----|
| 1. Radio in the Life of the Child | 3 |
| 2. Radio as an Instrument of Education | 16 |

Part II

TECHNIQUES OF TEACHING BY RADIO

- | | |
|---|----|
| 3. Prepare, Listen, Follow Up | 37 |
| 4. Adjusting the Radio Educational Program to the School Curriculum | 68 |

Part III

TEACHING LANGUAGE ARTS WITH THE AID OF RADIO

- | | |
|---------------------------|-----|
| 5. Speech | 101 |
| 6. Reading | 114 |
| <i>Section I. Prose</i> | 114 |
| <i>Section II. Poetry</i> | 132 |
| <i>Section III. Drama</i> | 137 |
| 7. Writing | 145 |
| 8. Foreign Languages | 153 |

Part IV

TEACHING CREATIVE ARTS WITH THE AID OF RADIO

- | | |
|---|-----|
| 9. Music | 163 |
| <i>Section I. Music Appreciation</i> | 164 |
| <i>Section II. Music Participation Programs</i> | 176 |
| 10. Art | 185 |
| 11. Creative Drama | 197 |
| 12. Creative Dancing | 205 |
| 13. Creative Writing | 210 |

Part V

TEACHING THE SOCIAL STUDIES WITH THE AID OF RADIO

- | | |
|--|-----|
| 14. Radio — A Dynamic Social Force | 217 |
| <i>Section I. Importance of Radio in Teaching the Social Studies</i> | 217 |

Section II. Propaganda — Indoctrination — Free Speech as Related to Education by Radio

15. Social Studies as Taught by Radio

Section I. Consumer Education

Section II. Religion

Section III. International Understanding

Section IV. Geography

Section V. History

Section VI. Current Events

Section VII. Civics

Section VIII. Community Life

Part VI

RADIO AS AN AID IN TEACHING SCIENCE

16. Physical Science and Arithmetic

Section I. Physical Science

Section II. Arithmetic

17. Natural Science

Section I. Nature Study

Section II. Conservation of Human Resources

Part VII

ADMINISTRATION OF RADIO EDUCATION

18. Training Teachers

Section I. Training Teachers to Use Radio

Section II. Scheduling

19. In-School Broadcasting

20. Out-of-School Listening

21. Radio Paraphernalia

Section I. Equipment for Radio Education

Section II. The Use of Records and Transcriptions

Part VIII

RADIO'S PAST AND FUTURE

22. Radio's History

23. Radio's Controversy

24. The Future

Part I

Radio—A Dynamic Educational Force

Radio in the Life of the Child

A TYPICAL RADIO DAY FOR ROBERT

Local newscast heard while the family is dressing.

"Music for the Family," a program of light concert music.

"International Round-up of News" provides the background for breakfast.

"Breakfast Club," a variety of songs, humor, and commercial announcements offers entertainment while Robert gets ready for school.

What Robert hears in school by way of radio or recordings varies with his lessons and with the availability of broadcast material.

On the days Robert is at home, during vacations, and at periods of occasional illness he will listen to the programs which his mother has selected to hear. Her schedule may be as follows:

Talk on health and homemaking.

Popular music.

News commentary.

A succession of radio serial dramas. His mother follows different adventures at different times so that sometimes Robert hears "The Guiding Light," "Today's Children," and "Queen for a Day." At other times he hears "The Romance of Helen Trent," "Road of Life," "When a Girl Marries," or "Bride and Groom."

Local news round-up.

- .M. Further succession of radio serials, women's commentators, audience participation shows, and one or several newscasts, depending upon the world situation.

Robert plays outdoors and does not hear the radio.

"Hop Harrigan."

"Uncle Don" or "Terry and the Pirates." Robert follows

	them both, switching back and forth as his interest quickens or lags.
5:15	"Superman."
5:30	"Jack Armstrong" or "Captain Midnight."
6:00-8:00	A succession of newscasts, comedy-variety shows, and mystery thrillers, depending upon the evening, for each day brings its special favorites: "One Man's Family," "Fibber McGee," "Mr. and Mrs. North," Bob Hope, "The Quiz Kids," or "Sherlock Holmes."
9:00	It is past bedtime, but Robert is pleading to hear "Mr. District Attorney," "The Thin Man," and "Gang Busters."
10:00	Newscast, the final program for the family each evening. Sometimes, when the volume is too high, the voice awakens Robert from his sleep.

Such is the daily radio refreshment of an astonishing number of American children. With its diversified and abundant programing, radio must be held responsible for many factors in the personality of the American listener. A lively force, attracting the devotion of millions, an agency supplying diverse entertainment and experiences, a medium vast in its coverage and intimate in its appeal, radio demands the most comprehensive consideration and analysis.

Radio has not yet reached its zenith in magnitude of service or range of power. Many are its attainments and potentialities. Its impact upon each member of society is early apparent, and it continues to be a part of his experience for the rest of his life. Including the growing number of frequency modulation and television production units, there are in the United States over a thousand radio stations, five national networks and many regional networks offering information and entertainment for seventeen or eighteen hours each day.

Radio a Flexible Medium. The fact that we have no "American system" of broadcasting, such as a government-controlled system, but instead many different systems dominated by individual policies of the large networks, has had a profound effect upon the child both at school and at home. Radio is subject to arbitrary change; its philosophy shifts at the will of commercial interests and advertising agencies

whose primary interest is often their profits rather than public weal. This also means that it is difficult to judge all programs by a single set of standards; we must always consider the aims of the agency producing the program as well as the intrinsic content. Radio is too volatile a force, too penetrating in its impacts, to go unobserved or undirected.

Although radio fare is so infinitely flexible, program executives have been fairly slow to take advantage of new possibilities. The impact of the radio on both the preschool and older child is significant in degree and importance. Almost from the first minute of aural perception, the child is influenced by this titan of communication. From babyhood on, radio is a factor in his home. At first it is merely a curiosity, emitting strange sounds from mysterious places. Even for an infant listener, radio provides experience with voices and music outside his limited environment. Radio slowly affects and broadens his whole area of knowledge and feeling. Gradually, as his faculties develop, it assumes greater meaning and interest. As the scope and range of his experience expands, the child no longer is limited by geographical boundaries. Without his being conscious of the process, radio becomes an integral, vital part of his life, linking him immediately and inevitably with a world beyond him. His environment expands even before he begins to realize the meaning of the adult world around him.

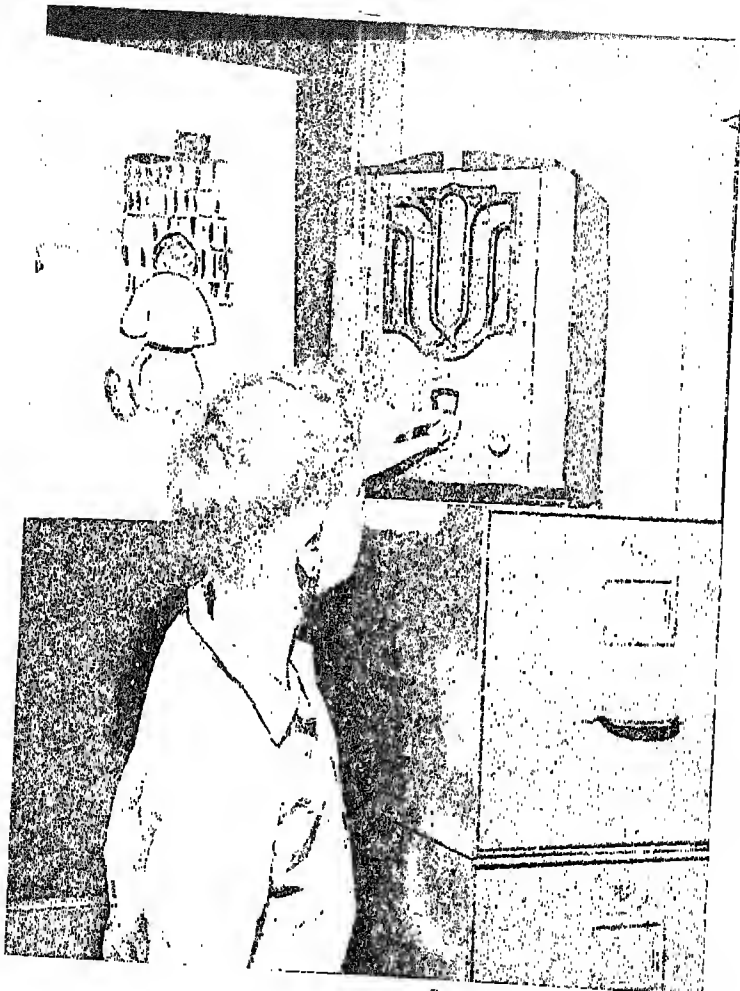
Radio an Aid in Exploring the World. The child gains his impressions of life's realities from many sources: from his life at home, his friends, his early experiences at church and at school, and through every other contact. Communication is the very essence of child growth and perception, and radio is one of its most significant mediums. Although one of the first means of communication to gain acceptance from the child, it becomes more potent when he has learned to use newspapers, magazines, books, and motion pictures. From the beginning, the child must learn to build a workable pattern of attitudes and behavior from the multiple, varied impressions that surround him. Radio colors both his childish ideas and his emotions. It should contribute, therefore, to his wise understanding and use of them. Thus radio may be considered as a mighty influence upon the social, intellectual, emotional, and physical world of the child. It is a medium whose great possibilities are not always understood or sufficiently realized.

Perhaps radio plays its most important role as a mold of the child's psychological and sociological development. Because the young mind is capable of growth and change, it is imperative that the influences upon it be supervised and directed. Although not yet the time for formal training, the preschool years are years of grave consequence to the entire future of the child. Radio presents possibly the greatest single opportunity for enriching the experiences of the preschool child.

The parents who consider themselves responsible for their children's early impressions find the radio not only a most powerful source of help, if properly utilized, but also a most powerful outside influence and one of the most difficult to control. Yet control is imperative. Radio should be used judiciously. The earlier the child develops an appreciation of some of the many aspects of our culture, the more easily and readily will he develop a full social consciousness. On the other hand, the child may be subjected to so much vulgarity and insincerity that his judgment may become warped and his mind overstimulated or contaminated. We shall deal further with these problems, for they merit serious attention in terms of early growth.

Psychologically, radio has a unique effect. Rarely does the child or adult listen alone; ordinarily he is a member of a small listening group, usually composed of parents or brothers and sisters. Despite this group aspect of listening, radio is chiefly designed to appeal to the individual. Yet the listener is always aware of widespread attention and participation. Thus he has some group motivation, but is not influenced by crowd psychology or sympathetic reactions with his unseen fellow audience. Here, then, we have a phenomenon which has much to do with the great impact of radio: the listener's feeling of being virtually alone in his response to a program, even while he is a member of a much larger unseen group. The child is unaware of other listeners at first, but later he responds to the announcer's references to radio clubs, activities, and opportunities for participation. He begins to feel part of a social unit and develops some interest in group identification. This desire, in turn, plays an important role in developing the child's early social attitudes toward those outside his immediate circle of acquaintance.

Radio a Stimulus to Emotional Experience. One of the strongest claims of radio is its creation of response. It can stimulate easily, and



Standard Oil Company of California

Radio Helps the Child Explore the World.

with television its scope will be even greater. This power to excite is one of its possible benefits as well as its gravest danger. Certainly there has been much concern about the emotional impact of radio dramas.

Since the initiation of radio drama for children in 1931, when it became a standard part of radio fare, parents have been angered by the effect of radio plays on their children. Possibly the earliest articulate group was the Scarsdale Parent-Teachers Association. In an article in the *New York Times* they condemned radio horror shows.¹ The networks have sometimes been guilty of considerable irresponsibility in answering such criticism, but in this instance they met the issue squarely by allowing the Scarsdale women radio time to present an effective but harmless program for children. Regrettably, the show was poorly written and produced and did not meet professional standards. Their program's failure to attract an audience brought only ridicule from the radio industry.

To help determine the degree of emotional response to certain radio serials, John J. DeBoer made scientific investigations of the measurable changes of emotional reactions.² At the University of Chicago laboratory he made 120 records of children between the ages of eight and fourteen, measuring changes in respiratory movements, in skin temperatures, pulse, and blood pressure, while the youngsters listened to typical episodes from such shows as "Jack Armstrong" or "Little Orphan Annie." He found measurable evidence of the children's disturbed emotional reactions.

In cooperation with the Stanford University School of Medicine, Dr. Mary I. Preston conducted a study of 200 normal children, from six to sixteen to determine their reactions to movie horror shows and radio crime dramas.³ Many of the children were addicted to listening to the crime stories: 57 per cent were considered severely addicted; 12 per cent were moderately so; 7 per cent were mildly addicted. Only 24 per cent were not addicted. Dr. Preston checked the effects of listening to crime dramas on general health and found evidences of sleep and eating disturbances, nail biting, and other indications of

¹ "Mothers Protest 'Bogeyman' on Radio," *New York Times*, LXXXII (February 27, 1933), p. 17.

² John J. DeBoer, "Radio and Children's Emotions," *School and Society*, L (September 16, 1939), pp. 369-73.

³ Mary I. Preston, "Children's Reactions to Movie Horrors and Radio Crime," *Journal of Pediatrics*, XIX (August, 1941), pp. 147-68.

a highly nervous state. As for the carry-over from the listening experience, it was found that most of the children continued to think about the shows after they retired (they listened from 4:00 to 9:00 each evening) and often dreamed and daydreamed about killings. They experienced anxiety about kidnaping, and most of them identified themselves with the criminals in the stories. It is logical to conclude, then, that if there is anxiety and concern manifested on behalf of the characters in radio dramas, the children will experience it vicariously.

Dr. Louis Berg has pointed out the morbid quality of many of the popular daytime radio serials in dealing with abnormal situations — frustrated love, sickness, murder, and insanity.⁴ He declares that they have a most detrimental influence upon women listeners. Because children also follow these serials, we are concerned with the mental and emotional fatigue, the complexes and anxieties, induced in the youngsters as well as in their mothers. If these serials emphasize problems of unhappiness and abnormality, then they are also presenting distorted views of real life. Which emotional stimuli are detrimental to the average child is hard to determine. There is no doubt that with proper surveillance and skillful writing, programs could be enjoyable to juvenile listeners and yet avoid the possible dangers of providing excessive stimulation.

Parents and educators are not the only ones to indicate concern about the effect of radio shows upon emotions. Even some of the children claim to dislike extremely exciting shows. According to a survey of 60,000 questionnaires sent out by the United Parents Association of New York City to children between kindergarten and high school age in twenty-one cities, the youngsters reported definitely disliking extreme thrillers⁵ but said they liked to listen to adventures and mysteries, enjoying such adult shows as "The Lone Ranger," "Ellery Queen," and "Cavalcade of America."⁶ Children are not unaware of the need for program improvement. In connection with this survey, they asked for more programs between the hours of 4:00 and 8:00, dramas of the Bible, more fairy tales, an "Information Please," and news directed to their understanding.

⁴ Louis Berg, "Social Responsibility of Radio," *Education on the Air* (Ohio State University, 1942), pp. 13-16.

⁵ We wonder what their criteria were.

⁶ "Survey of Children's Radio Preferences," *School and Society*, LII (July 13, 1940), p. 23.

Development of Children's Preferences in Radio. Between the ages of four and seven a youngster starts to take an active, continuous interest in radio entertainment. He begins to ask for particular programs, is able to follow a sequence, and listens with increasing concentration. By the age of six he is an habitual listener, identifying and imitating characters in his own favorite programs. The peak of this early listening is reached at about the tenth year.⁷ Children in the elementary grades listen to radio a large proportion of the time — about two and one half to three hours a day. Sometimes the estimates of their listening time run even higher. According to the series of interviews conducted in Iowa and Kansas by Dr. Forrest L. Whan from 1940 to 1944 inclusive, children listen about three and one half hours each day during the school year.⁸ These avid youngsters follow five or six programs regularly, five others occasionally.⁹ Their listening has become part of the American cultural pattern and a national trend in all juvenile development.

Although it has been suggested that the child should not have access to radio until he is seven or eight years old, such isolation is practically impossible.¹⁰ Older members of the family are certain to listen. In any case, a child will learn of this wonderful instrument and be the more interested for its prohibition. It is far more advantageous to train the child early in correct listening habits, attitudes, and discrimination than to try to forbid him access to the radio.

Radio listening has become so prevalent that children seem to have developed an ability to hear programs while in the midst of other activities. On testing those students who had radios in their rooms, Cantril and Allport reported that two thirds said that they read or studied with the radio playing, usually choosing an accompaniment of music.¹¹ Eisenberg found that 33 per cent of the elementary school children he tested engaged in other activities such as reading, playing, or studying while listening to the radio.¹²

⁷ Sidonie M. Gruenberg, *Radio and Children* (The Radio Institute of the Audible Arts, 1935), pp. 3-4.

⁸ "Radio and Education," "For Your Information," A 51, an American Broadcasting Company Series.

⁹ "Listens Three Hours a Day," *The Nation's Schools*, XXIII (May, 1939), p. 95.

¹⁰ Elizabeth F. Boettiger, *Your Child Meets the World Outside* (D. Appleton-Century Co., 1941), pp. 82-87.

¹¹ G. W. Allport and Hadley Cantril, *The Psychology of Radio* (Harper and Brothers, 1935), pp. 104-06.

¹² A. L. Eisenberg, *Children and Radio Programs* (Columbia University Press, 1936), p. 135.

It has long been an annoyance to parents that children allow the radio to interfere with meals, sleep, work, and play. It has become part of the American folkway to live with an almost constant background of sound from a radio. Some impression of the gigantic proportions of this medium may be had if we note that according to the figures released in 1940 by the United States Bureau of Census, the juvenile population between the ages of five and fourteen inclusive is 22,430,557, and that approximately 90 per cent of these children have access to radio programs.¹³

As for children's preferences, they are provocative, revealing, and disturbing. Young listeners take radio stories very literally, believing them as they do other tales of fantasy and make-believe. According to Arthur T. Jersild, children up to the age of about nine enter freely into fantasy and whimsy which provide them with an exciting realm for imaginative wanderings.¹⁴ "Singing Lady" was a favorite with young children for many years, for the star built her programs around stories, songs, and rhymes. A local program, "The Magic Lantern" (KSL, Salt Lake City), catered to children by offering stories of fairy princesses and magic kingdoms. Similarly, Nila Mack's "Let's Pretend" and Isabel Manning Hewson's "Land of the Lost" cater to the interests of young people. Countless similar programs exist and are used by regional networks and local stations.

With age comes the desire for more realism or pseudorealism, as older children demand greater verisimilitude in situation and characters. Nevertheless, children do not particularly appreciate simple tales of real life doings; they much prefer the escapades of supermen. In books and in radio programs children like action, melodrama, and the suspense of continued narratives; they dislike programs which seem to them to be silly, improbable, repetitious, preaching, or excessive in love interest. Although there are few comedy programs designed for children, humor ranks high and often first among their favorites. Lists of preferred shows always include such popular comedians as Jack Benny, Bob Hope, and Danny Kaye. The desire to laugh and to be entertained increases as the child grows and enlarges his acquaintance with objective situations, with character, and with words. Above all, children seem to desire extremes of adventure.

¹³ *Sixteenth Census of the United States, 1940. Population, II*, p. 10.

¹⁴ Arthur T. Jersild, "Radio and Motion Pictures," *National Society for the Study of Education, Thirty-eighth Yearbook, II*, p. 155.

According to a survey made by Francis J. Brown at the fifth and eighth grade levels, the mystery play ranks first in preference, with comic dialogue, skits, and dramatic plays almost equally popular.¹⁵ Thus the child seems to want either of two emotional extremes, intense excitement or the relaxation and joy of humor.

Children's taste in radio programs parallels their taste in other forms of entertainment: they want excitement, mystery, danger, perilous action. It is a time for imaginative exploration among the most harassing and tempestuous pursuits. Radio crime and mystery stories are special favorites. Not only do children follow those designed for juvenile acceptance, but with uncanny skill they ferret out the most vehement crime tales directed to adults. Broadcasters have encouraged this preference by catering to childish credulity and thirst for adventure. In fact, Howard Rowland¹⁶ has declared that radio crime has become a prominent American folkway and warns of unpleasant and disturbing results. In analyzing fifty crime dramas popular with children, he found that ninety-six criminal offenses were committed, attempted, contemplated, or implied: murder, larceny, kidnaping, sabotage, and extortion being the most prominent. Six of the eight stereotyped characters were superheroes or super-sleuths, and next in frequency were crafty villains who perpetrated weird and heinous crimes. These scripts portrayed great distortion of justice, and only five of the fifty dealt with law enforcement. From the standpoint of fostering the right fundamental social concepts, such typical programs are undeniably pernicious.

Psychologically much of the interest in extremes of radio crime and adventure may be easily understood and often justified. These programs provide a form of escape from reality, a stereotyped day-dream leading to unknown, exciting vistas. Literature too is filled with tales of the supernatural, the terrifying, and the lure of the unfathomable. Long before radio, children and adults succumbed to such fiction. Constant addiction to this sort of literature or radio drama usually indicates an immature stage of growth and adjustment.

There is, of course, the point of view that the themes and stories presented by radio are comparable to those standard in dime novels

¹⁵ Francis J. Brown, *The Sociology of Childhood* (Prentice-Hall, 1939), p. 327.

¹⁶ Howard Rowland, "Radio Crime Dramas," *Educational Research Bulletin*, XXIII (November 15, 1944), pp. 210-17.

and cliff-hanger movie serials.¹⁷ That there are obvious similarities cannot be denied. There is no doubt that radio adventures fill some of the child's need for an active dream world. Certain vicarious excitement is legitimate. As John J. DeBoer points out, the mild cases of emotional stimulation induced by some radio shows may have a tonic effect.¹⁸ Nevertheless, the dime novel did not have the added impetus of the realistic facilities of modern radio. Nor did it leave one to suffer in suspense until the next episode. The reader could continue to the end of the story or until the emergency was resolved. With radio serials, we have a daily accumulation of crises. The movie serials were usually available weekly, but even they came to an end. "The Perils of Pauline" were not shown nightly, just before bedtime.

However, the young listener sometimes finds relaxation through radio dramas, ridding himself of pent-up emotions by means of vicarious participation. Some of the very serials which are condemned may thus serve as an outlet for tensions accumulated from real-life experiences.

Radio for Children Is New. Programs directed to juvenile listeners are relatively new, even in terms of an industry under thirty years old. In 1928 only three programs were being designed for children in the New York City area; six years later, in 1934, there were fifty-two.¹⁹ The number has kept pace with the expansion of the industry. One may note that it was in the early thirties that the serial thriller gained in numbers and popularity. "Little Orphan Annie," "Buck Rogers," "The Shadow," "The Green Hornet," and others appeared at that time.²⁰ Simultaneously inexpensive radio sets were mass produced, so that an increasing number of homes were equipped for radio reception. At this time children all over the nation became avidly conscious of radio. Since then the trend for more programs directed to children has continued, particularly on the initiative of many local stations.

This growth has been paralleled everywhere by the networks and

¹⁷ We may define a "cliff-hanger" as a motion picture or radio serial which is presented to the public in installments. Each episode is terminated at a high point of excitement so that the public will be eager to return for the following chapters.

¹⁸ John J. DeBoer, "The Psychology of Children's Radio Listening," *Radio and English Teaching* (D. Appleton-Century Co., 1941), pp. 37-38.

¹⁹ A. L. Eisenberg, *op. cit.*, p. 5.

²⁰ Dorothy Gordon, *All Children Listen* (George W. Stewart, 1942), p. 42.

the regional stations. Yet radio shows for children have long been neglected in terms of significant and responsible values, and until recently few have accepted the real responsibilities and noted the great potentialities. Advertising agencies have seen only the great buying power of children.²¹ Educators on the whole have chosen "ostrich techniques." Now at last programs are being produced with great care and purpose, and certain standards are being evolved according to the findings of specialists in child psychology.

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²¹ Although the commercial broadcaster has long been condemned for his consideration of himself first, we owe him much. He has been more eager to provide new programs and to do experimental work than have the reluctant educational institutions. As a matter of fact, the educators have been slow to experiment and slow to make use of the material already available.

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Radio as an Instrument of Education

A REAL APPRECIATION of the significance of radio must take into consideration the analyses and purposes of radio education which have concerned teachers since radio became an instrument of communication. Many conferences have been held, many books have been written, and many speeches have been made; still no uniform agreement has been reached on what radio education is or what it attempts to accomplish. A teacher must understand objectives and values if correct program selections are to be made. Teachers should be trained to recognize the inspirational values of a radio program as well as its drawbacks and its advantages as a medium of education.

The Meaning of Radio Education. Generally it can be agreed that effective learning springs from rich associations; it occurs as a result of a large range of interrelations of varied experiences. Radio offers one means of increasing these associations and experiences. It widens the horizon of the general knowledge of boys and girls by transcending their experiences, which have usually been limited by the four walls of the classroom, and by taking them outside the immediate geographic environment of their community.

If radio experience merely amuses or entertains, no real progress in education has been made. As an effective educational instrument, radio must help the individual to accept new values, extend his appreciation of other human beings, remove irrational prejudice, and create desire to achieve. Radio can provide an important medium for the enlightenment or enslavement of people. For children the impact of the medium depends not on the use of the program alone but on intelligent guidance, preparation, and meaningful consideration of the objective for which the program is designed.

Radio education differs from other forms of education only as it relates to source and method. The definitions of radio education, like the definitions of intelligence, are almost too numerous to list. Such definitions vary with schools of thought in philosophy, psychology, education, religion, and also according to cult, creed, and fad. The best we can do to clarify the meaning and scope of radio education

is to give those definitions stated by men who work with radio as an educational force and as a commercial enterprise.

W. W. Charters, Director of the Bureau of Educational Research of Ohio State University, offers this helpful definition: "An educational program is one which raises the standards of taste, increases the range of valuable information, or stimulates the audience to undertake worthwhile activities."¹ He also says, "Whether or not a program is educational is not a matter of origin but of quality. If the presented facts are accurate and the intent of the broadcaster sincere, the program is educational."²

A further simplified definition of an educational program is given by Frederic Willis:³

I like to think of education by radio as a timely, vital, dramatic thing: a system of learning or acquiring more information, a means of widening one's horizons, or *enriching one's life and breaking down prejudices*, through inspiration and not perspiration; an education by desire and not by discipline; a pattern of swiftly changing pictures and events with keen interpretations, not statistics and formulas; a moving panorama of the world in which we live — right now, while we are living in it — not a dreary drill of textbooks and tests. In short, I feel that one of broadcasting's most helpful contributions to education and one of its real responsibilities to itself and its listeners is the popularizing of education itself.

Recognizing the difference of definition, H. B. Summers points out four possible types of programs which have educational implications.⁴ There are educational programs designed to be used in the school; they are presented during classroom hours and are concerned with specific curricular areas of the elementary or secondary school. There are educational programs which bring information and enrichment to the students in the classroom; they deal with such general subjects as music appreciation, literature, and history. There are educational programs which give information and provide valuable experience in listening, but the subject matter is not in the ordinary school curriculum — a forum discussion of contemporary issues,

¹ Faith H. Hyers, *The Library and the Radio*, National Advisory Council on Radio in Education (University of Chicago Press, 1938), p. 27.

² *Ibid.*

³ Frederic A. Willis, "Widening Horizons," National Advisory Council on Radio in Education (University of Chicago Press, 1934), p. 3.

⁴ H. B. Summers, "What Is an Educational Program?" *Journal of the Association for Education by Radio*, IV (April, 1945), pp. 103-04.

for example. Finally, there are programs which are not related to formal education but which may have an educational effect by arousing curiosity and the will to know. The quiz program may be cited as an example.

The difficulty of defining educational broadcasting might be lessened if we set up standards which a program must meet in order to qualify as educational. Klinefelter⁵ has proposed the following tests to be applied to a program to judge its educational quality:

1. Does the program convey to listeners socially desirable information which they did not possess before hearing the program?
2. Does the program discuss items of knowledge and give clear-cut directions for their practical application so that listeners not only have clear understanding of the items of knowledge but can make practical application of them as need arises?
3. Does the program give a step-by-step explanation of how to do or make a certain thing with clear-cut directions as each step is covered so that the listeners can do or make the thing as need or occasion may arise?
4. Does the program present a problem involving the exercise of judgment or constructive thinking in such a way as to bring out, in an impartial and dispassionate manner, all the various factors involved in the problem so that listeners are stimulated to make an intelligent evaluation and arrive at a logical conclusion?

Conflicting Points of View. It is evident that two conflicting schools of thought exist. One group believes that any program of high quality which brings information to its audience may be termed educational. The other group contends that a program must be especially designed for educational purposes before it can qualify. Perhaps the confusion lies partly in the lack of definition of "public interest, convenience, and necessity," which are considered the cardinal criteria of all broadcasts. Further confusion lies in the disparity between the viewpoints of professional educators and professional showmen. Still further confusion rests in the attempt of many educators to limit educational programs to those designed for the classroom. Does this exclude the many school public relations programs? When we consider that such programs often involve the school band and orchestra, the school dramatic club or choral society, the debating club,

⁵ C. F. Klinefelter, "What Is Educational Broadcasting?" *School Life*, XXII (March, 1937), pp. 209-10, 219.

the literary club, or some comparable student organization, obviously we cannot exclude these programs from radio education. It is true that these programs have instructional value only indirectly, but they act as a strong stimulating force in spurring the student to constructive achievement.

Another source of difficulty lies in the fact that those concerned with radio programs for instruction of children have two different groups of children in mind. The first group includes the boys and girls in a classroom under the direct supervision of a teacher. The second group includes children who listen at home or at places other than at school. Nor are the two groups of programs mutually exclusive; both are valuable and may be utilized effectively. The teacher is not restricted to using classroom radio programs. By doing so he would eliminate many potentialities. It is part of his responsibility to help pupils take advantage of radio both at home and at school.

The Objectives of Radio Education. The objectives of radio education follow closely the objectives of education in general. From the teacher's point of view, the principal characteristic of radio is that it offers one more instrument which can contribute to general culture. Radio can supplement classroom teaching by encouraging desirable attitudes and appreciations, by arousing interests and creative expression, by encouraging better personal-social adjustment, and by helping the pupil to acquire functional skills. Attempts have often been made to formulate objectives for radio education exclusively, but this is impossible without including almost all the objectives of education itself.

J. Wayne Wrightstone⁶ has made the following classification of the major objectives of school radio programs:

1. Functional information; objectives dealing with acquisition of facts, information, concepts, and principles in the various fields.
2. Powers of critical thinking and discrimination; objectives dealing with ability to infer, to analyze, to apply generalizations, principles, or standards.
3. Attitudes and appreciations; objectives dealing with the quality, direction, and consistency of beliefs, convictions, opinions, and choices.
4. Interests; objectives dealing with the building of broader, deeper, and growing interests and preferences in each area of the curriculum.

⁶ J. Wayne Wrightstone, "Evaluating the Production and Use of School Broadcasts," *Phi Delta Kappan*, XXI (March, 1939), p. 333.

5. Creative expression; objectives dealing with self-expression in any media, including self-purposed experiments or investigations.
6. Personal and social adaptability; objectives dealing with emotional, personal, and social values and patterns of behavior.
7. Skills and techniques; objectives dealing with conventionally accepted "tools" or skills peculiar to a subject or discipline.

"Schools of the air" usually state their purpose in the form of definite objectives. Let us take, for example, the Alameda, California, School of the Air as reported in the *Journal of the Association for Education by Radio* in 1942.⁷ The purposes of this school of the air are:

1. To supplement the work of the classroom teacher.
2. To bring up-to-the-minute information into the classroom.
3. To create interest and feelings.
4. To motivate classroom activities.
5. To develop auditory learning.
6. To develop better written and spoken English.
7. To develop an appreciation of worthwhile radio.
8. To develop an appreciation of audible art.

Sometimes objectives of radio education have also been formulated to cover a wider sphere than education in the classroom. This classification includes the education of the teacher and layman. Astelle⁸ defines such objectives as follows:

1. To publicize general educational trends.
2. To unify the local or other school units.
3. To aid teacher activities.
4. To develop the all-important student product.
5. To use in adult relationships.

Some educators have attempted to consider the one central purpose of radio education rather than to segregate purposes into several categories. Gordon Hullfish states that the educational broadcast should be planned to aid listeners "in becoming more effective participants in democratic life."⁹ Ben Darrow thinks one objective should be to interest children: "We add a priceless thing to educa-

⁷ "Alameda City School of the Air," *Journal of the Association for Education by Radio*, I (February, 1942), p. 10.

⁸ Louis A. Astelle, "Radio Program as an Aid in Education," *Science and Mathematics*, XXXVIII (March, 1938), pp. 293-99.

⁹ *Education on the Air*, 1939, p. 296.

tion if we can keep children interested. I have always thought the central function of radio to be the arousing of interest."¹⁰ Other educators prefer to think of the main function of radio as an instrument of education in the classroom — an instrument not so valuable in contributing new knowledge as it is in encouraging improved attitudes and new cultural appreciations.

The content of radio programs has undergone, and is still undergoing, much criticism from the teachers' profession; criticisms are chiefly of objectives rather than content. Before any program is broadcast these questions should be asked: What is needed? What is to be accomplished? Why is the program to be used? When these questions are answered the curriculum expert can suggest the selection of proper content, while the specialist in showmanship can suggest the manner of presentation.

Briefly, we can state that the function of radio is to enliven and stimulate. The object of any radio participation in the curriculum should be to help the pupil "to (1) achieve functional facts and information, (2) gain appropriate work-study skills, (3) develop broad interests, (4) develop desirable attitudes, (5) develop powers of creative expression, (6) find and develop more adequate ways and means of thinking through various problems, (7) carry out the enterprises through group and individual action, and (8) achieve personal-social adaptability."¹¹ If the use of radio programs can contribute something to the realization of these objectives the teacher is justified in using it.

Radio Education in Special Subject Areas. In those schools where a traditional curriculum is being followed and where the curriculum organization conforms to definite subject areas, each subject will conform to its own special aims. If radio is used in connection with a special subject, then there will be need to define a second set of objectives. An examination of subject-area objectives as well as of radio objectives will show that they duplicate each other. The following set of objectives for the use of radio in connection with the teaching of English illustrates the point.¹²

¹⁰ *Ibid.*, 1936, p. 154.

¹¹ J. Wayne Wrightstone, "Evaluation of New Instructional Practices," *New Instructional Practices of Promise*, Department of Supervisors and Directors of Instruction, 12th Yearbook (National Education Association, 1939), pp. 312-13.

¹² E. D. Child and H. R. Finch, "Motion Picture and Radio — An English Elective," *Curriculum Journal*, X (October, 1939), pp. 253-56.

1. To increase pupil awareness of the sociological, economic, and international aspects of movies and radio.
2. To aid pupils in selecting valuable programs.
3. To aid pupils in enjoying programs by increasing their appreciation of the arts involved.
4. To improve the pupils' ability to write and speak.
5. To teach some of the skills with amateur production.
6. To discuss the literary aspects and social significance of the program.

Radio has been used as an instrument of instruction in almost every subject area in the public school. Subjects which may be amplified or illustrated by radio are these: current events, geography, nature study, social science, music, health, literature, sciences, arithmetic, and foreign languages. But teachers should use radio programs for more comprehensive purposes than to illustrate a special subject area. Neither should it be forgotten that radio must supplement rather than supplant the work of the classroom teacher.

Opinion of Teachers on Radio Education. Teachers who have used radio have freely expressed opinions on the value of radio in their work. It is a healthy sign that the majority of opinions are not colored by overenthusiasm nor by exaggerated claims for the use of radio. Teachers are the first to state that little value can be expected by merely exposing the child to a program. Some of the most enthusiastic claims for the value of radio instruction come from that group of educators who support the master-teacher plan and who use a station owned or operated by the school.¹³

A specially designed radio program operated by a noncommercial station can provide substantial introduction for a new course of study. This is particularly valuable to a teacher who has been transferred to a different school or area of study. In many cases the radio lessons are as helpful as a printed course of study for a special subject. The materials are usually well organized, and methods are presented which can often be used in many classes. As a rule, radio lessons move faster than do traditional classroom techniques, leaving more available time to the teacher for cultivating new skills or for elaboration of the radio lesson itself.

Additional testimony of the advantage of a noncommercial radio

¹³ An example of written testimony to the value of such instruction is reported by Lillian Wennerstrom, "Education by Radio in Cleveland," *Educational Method*, XVIII (April, 1939), pp. 352-57.

classroom broadcast specifically designed for the schoolroom is given by another proponent¹⁴ of the Cleveland plan as follows:

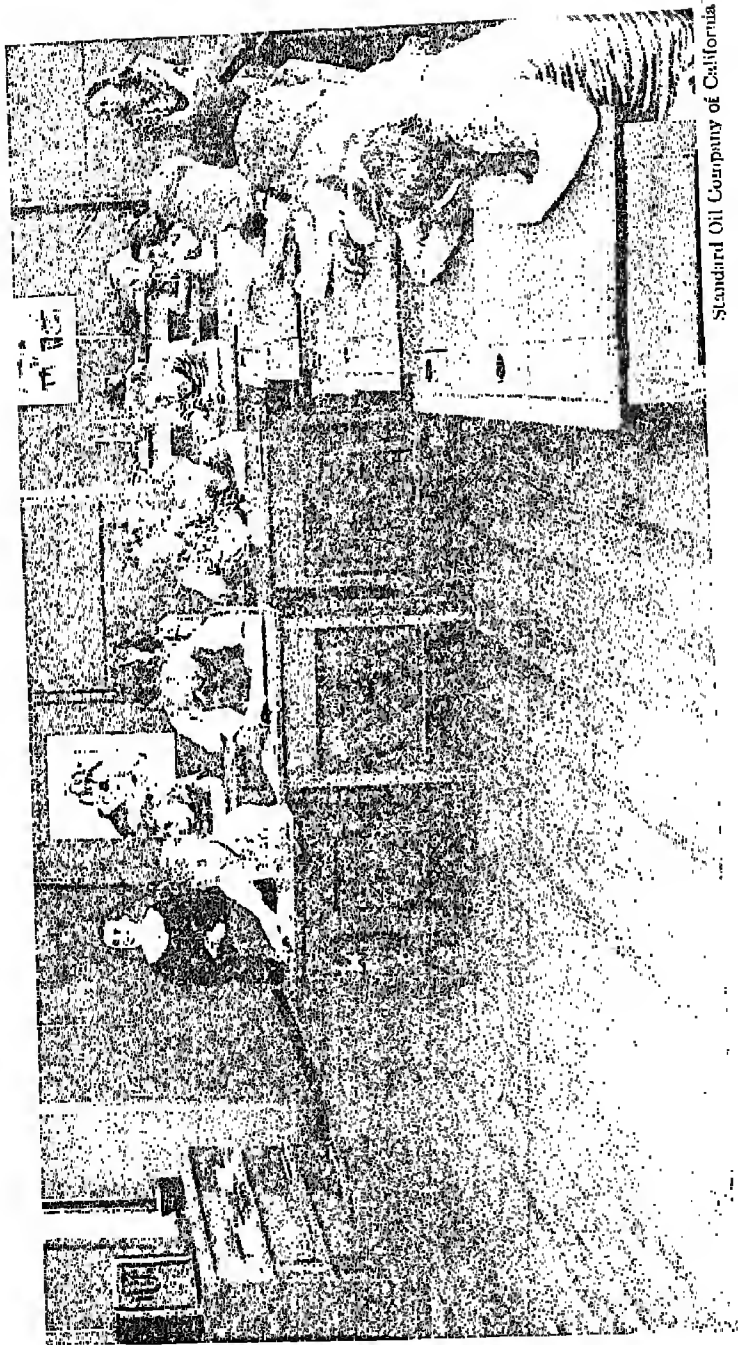
1. The programs can come over the air at a time for maximum effectiveness and to fit the school schedule. They can be repeated as needed.
2. The technique can include pauses of any length desired.
3. The general listening public may not be considered, thus programs can be provided which will meet special needs.
4. The classroom teacher has an opportunity to observe the effects of a model lesson, e.g., the attention and reaction of his pupils. A master teacher often has the advantage of being a specialist in music, art, or speech and can therefore not only broadcast an effective lesson but inspire the classroom teacher to use similar techniques.

Teachers have found that radio experience teaches the child to listen and to visualize. It encourages attentiveness. Indirectly it conserves sight which would otherwise have to be used in reading. It should be mentioned, however, that radio cannot improve the qualities of concentration and attention without a direct effort on the part of the teacher who must be responsible for most of the inspiration of any classroom.

Teachers often stress the advantage of the careful preparation of radio scripts which makes it possible to discuss topics and problems in less time than is possible in traditional classroom procedure. The teacher, too, receives benefit by the stimulation of lesson planning and the advantage of listening to frequent demonstration lessons by the best instructors and supervisors. It enables teachers to observe individual differences among their pupils in a manner which would be impossible to them were they personally conducting their classes. Teachers also mention that where broadcasts are made by classes an entire school can benefit by the project. Class participation in radio production calls for cooperation by the administrative and instructional services of every department.

Advantages of Radio Education. Although the advantages of using radio in the classroom will become increasingly apparent as we examine the role of radio in various curricular areas, it is well to summarize the general values. In the first place, radio can extend the area of acquaintance of the listener. Skillful broadcasts may take

¹⁴ Allen Y. King, "Adapting the Radio to the Classroom," *Social Education*, V (October, 1941), pp. 412-18.



Standard Oil Company of California

*Radio Can Enrich the Child's Experience by Carrying Him Outside the
Four Walls of the Classroom.*

the audience to other places and into other periods of time. The whole world can now be the learning place for the pupil. Radio can make these excursions so graphic and vivid that a real expansion of the child's understanding may result. Nor is this extension of experience limited to space and time. The microphone can bring a wide range of people who have made genuine contributions to society into the life of the child. It is far more significant to hear an expert discuss his work than it is to read about it. Besides bringing living masters into the classroom, radio can recreate the great men of the past.

Radio brings its listeners into an immediate contact with local and international events. The ability to share in any event can be of particular value in the social studies. For example, sessions of Congress, political conventions, sports contests, art exhibits — in fact, almost every reflection of our social pattern — may be more meaningful to the youngster if he can participate in it through radio.

By bringing variety into the classroom, radio offers a refreshing aid to the teacher. Youthful attention and interests are transient, and the instructor needs every resource to keep his pupils striving toward desirable objectives. Because of its versatility and its vitality, radio can help to provide diverse and many-sided stimuli. Properly directed, these very stimuli may motivate splendid follow-up discussions and activities by the pupils. Again we emphasize that the broadcast alone is of little value; its merit comes only from intelligent use.

Problems of Radio Education. The difficulties of radio are principally those dealing with equipment and scheduling. Claims have been made, however, that radio lacks effectiveness as a teaching device. Broadcasting, for instance, has often been accused of developing an intellectual passivity already too prevalent in the American attitude toward printed thought. The attitude of "I read it, thus it must be so," is now supplemented by "I heard it over the radio, thus it must be so." This criticism can be met only by educating the child to maintain a critical attitude, a keen judgment, and a sense of objectivity.

Another argument maintains that education by radio is limited in making an adjustment to the capacity of the individual pupil. Radio instruction cannot suddenly be stopped and repeated for the benefit of individual pupils who cannot follow the idea the first time, nor

can the radio teacher help any particular child in a remedial manner. An uninterrupted lecture may become tedious for the young pupil and thus, again, create a passive or indifferent attitude. Of course, the same argument can be advanced against the textbook. Individual adjustment to listening or reading rests finally with the classroom teacher, who must provide for individual differences through discussion, reconstruction, paraphrasing, and grouping. The teacher should never forget that the radio is a supplement to teaching and not a substitute for it.

There have been arguments that radio is more tiring to the listener than a face-to-face contact with a speaker. A face-to-face contact enables the speaker to use facial expression and gesture. It also provides the natural setting for normal communication. These disadvantages of radio have largely been overcome, however, by the use of sound effects, voice intonation, timing, variation, and concise program planning.

According to a report by Seerley Reid in 1942, approximately 50 per cent of the teachers of Ohio did not use radio because they had no radio equipment, and another 25 per cent did not use radio because their radio equipment was unsatisfactory.¹⁵ Other reasons given for not using radio were scheduling difficulties, lack of information, programs unrelated to the curriculum, programs unsuited to the grades, poor radio reception, and the superiority of class recitation. Some teachers did not use radio because neither they nor the pupils were interested.

Boyd F. Baldwin reported in *The Nation's Schools* in 1938 that teachers had not found the radio to be superior to other instructional devices.¹⁶ The instrument, he says, probably just holds its own with the best teaching tools and will make its contribution only as a supplement to other teaching methods in use. It does excel other devices, however, as a means of bringing life situations into the classroom. If radio is to be effective as an educative device, the materials for broadcasting must be carefully chosen and well organized. The choosing and organizing must be done by professional educators and not by professional radio artists and financiers. At present the major

¹⁵ Seerley Reid, "Radio in the Schools of Ohio," *Educational Research Bulletin*, XXI (Ohio State University, May 13, 1942), p. 138.

¹⁶ Boyd F. Baldwin, "Radio as a Teaching Tool," *The Nation's Schools*, XXI (January, 1938), p. 41.

responsibility for the selection of subject matter is assumed by national networks in collaboration with advisory committees. Because these networks are organized primarily for profit, many educators contend that they are not dependable in providing adequate educational service to the schools of the nation.

Baldwin also contends that the radio-listener situation is inferior to the teacher-pupil relation. The talented teacher face to face with his class can hardly be excelled. All that radio can do for the average classroom is to increase interest through novelty, variety, and supplementary techniques. The average teacher will be eager for the opportunity to have such assistance.

Handicaps of Radio Education. The most difficult problem yet unsolved in education by radio is the synchronization of time. This is a particular handicap to schools operating under a traditional organization where each subject is taught at a definite time, and a serious drawback if the same subject is taught at different times in different schools. When we consider network broadcasts the question of time becomes even more complicated because of the time zones. If a program is being broadcast in Chicago at 9:30, the Pacific Coast time will be 7:30. If a national broadcasting system were to reach all the schools of the nation it would have to offer all its programs near the middle of the day.

The second most difficult problem is that of adjusting radio educational programs to the curriculum. A geography lesson on South America which comes over the air in January can hardly be used by a fifth grade in the midst of a unit on Switzerland.

A third problem is the inability of some teachers to utilize effectively the material coming over the radio. It is obviously not sufficient for children to hear a lesson. The teacher must know how to prepare his pupils to listen and be able to help them remember and use what they have heard. Lesson leaflets announcing programs in advance and suggesting teaching techniques have often eliminated this difficulty.

Still another problem of radio educational broadcasting is the limitation of the lecture method and its variations. The radio is a one-way communication. The listener cannot talk back. He cannot ask questions as they occur to him. He cannot offer his own interpretations and opinions until after the program is over.

The radio industry has experienced numerous disturbing problems. For example, a study of the history of the "American School of the Air" shows that in early broadcasts an attempt was made to relate radio programs to the curriculum. The curriculum of the schools of the United States was so varied, however, that adjustment to all of them was found an impossible task. Other insurmountable problems of scheduling, equipment, and the ability of the teacher to use such programs all but destroyed early attempts to produce for classroom consumption.

As a further illustration, it may be mentioned that it is difficult for national networks to avoid duplicating local broadcasts to schools. It is therefore desirable that a national broadcast for the school attempt to supplement and enrich classroom instruction, rather than try to tailor programs to specific local courses of study. It is up to the classroom teacher to adapt both local and national programs to his course of study. While local stations may offer help in specific areas of study and for specific classes, it is the network station which relays international and national broadcasts and which supplies the services of scholars, musicians, artists, medical men, and scientists.

The national networks, moreover, are accepting their responsibility toward both formal and informal education. The broadcasting industry has established public-service divisions and has opened its microphones to many personalities and programs. At first the industry lacked philanthropic design and altruistic motive for encouraging education. Its basic motive was commercial. Industry bore the expense of educational programs because these shows increased the popularity of radio among cultured people and because they satisfied the requirements of the Federal Communications Commission, thereby guaranteeing license renewal. Certainly educational programs if well presented will build good will toward any broadcasting station. In the past, radio-education programs have been used as "fillers." Their tenure has been precarious and their hours have not been guaranteed. This condition is being remedied, however, and some splendid work with educational programs is being done through the joint efforts of both network official and educator.

How Educational Groups Use Radio. Compared to other organizations, educational organizations rank highest in using radio for

special purposes. Some voluntary organizations rank high, too. The principal purposes of broadcasting by voluntary organizations are to help in national drives, to acquaint the public with the role of the organization in the community, to extend their services and area of communication, and to unify the work of the local and national organizations.

Responses to a questionnaire received from thirty-five states and insular possessions in 1942 indicate that state departments of education are most interested in broadcasting programs which will promote favorable public relations toward their work.¹⁷ These departments are also active in broadcasts to the classroom and in broadcasting programs, which will promote interest in the state, for children during out-of-school hours.

Schools within the states are gradually awakening to radio's possibilities, although their number is discouragingly low when compared to the potential number which will use it. In 1942 Seerley Reid in a study of the use of radio in schools of Ohio¹⁸ reported that far more elementary schools than secondary schools use classroom broadcasts. Only 2 per cent of the one-room schools used such broadcasts. Inasmuch as one fifth of the schools of Ohio are one-room schools and since over half of the schools in the United States are one-room schools, this is data worth considering. The problem of the one-room school certainly demands the attention of those concerned with education by radio. Equipment and teacher-training might provide the answer.

Radio's Needs for Educational Accomplishment. Radio education needs money for proper equipment and for production. Too many teachers have had to work too many hours at too many chores. We cannot expect them to assume the labor of producing or using radio broadcasts without time allowances and without proper training. If they are to help with broadcasting they must be remunerated. Until those responsible for educational broadcasts are well paid, the production of programs for school use will be regarded as a duty rather than as a privilege. Most commercial radio stations in America would welcome educational programs without charge for their time

¹⁷ A. L. Chapman, "Radio Activities of State Departments of Education," *Journal of the Association for Education by Radio*, I (April-May, 1942), p. 6.

¹⁸ Seerley Reid, "Radio in the Schools of Ohio," *Educational Research Bulletin*, XXI (May 13, 1942), p. 130.

and facilities if they could be certain that these programs would be high enough in quality to insure an appreciative audience.

Radio education also needs leaders who are able to coordinate what is already being done. Leaders are needed who can develop an over-all plan and who can guarantee to carry it through. Here again the need for training is stressed.

There must be more cooperation between educators and commercial stations. For many years the progress of radio education was retarded by bitter argument between educators and financiers. The issues were sharp and were based on a misconception of public interest, convenience, and necessity. Argument has not ceased, but educators have found that much more can be accomplished through tolerance and cooperation than by prolonged squabbling over unproved theories and philosophies. Broadcasters, too, are learning that educational programs can be "good radio," and that such programs can attract large listening audiences. Many producers are gaining respect for the possibilities of the educational program.

A good example of cooperation between educators and professional radio men is seen in the effort of commercial radio to raise the standards of its programs by formulating and adopting sound codes and by employing full-time experts in education and psychology. Many educational groups are also attempting to raise the standards of their programs by cooperating with commercial radio. Other professional educators do not realize the cost of planning, producing, and organizing an effective radio program. Some universal plan should be proposed which will guarantee that suitable radio education programs shall be broadcast. As yet no generally accepted plan has been devised for financing these programs. Usually the commercial networks bear the expenses of production so that they may provide a public service to their listeners.

Educators must cooperate among themselves. An outstanding example of cooperation is the attempt of educators to pool their sources of power in the Institute for Education by Radio sponsored by Ohio State University. This institute has worked for nearly twenty years for the improvement of the ideals and techniques of educational broadcasting. Through discussion and debate, demonstration and research, and shared information and experience, this institute has promoted the dissemination of knowledge and culture

by use of the radio. It has been the only comprehensive, all-inclusive conference in America of individuals concerned with the production of educational and public-service broadcasts.

There is need for more cooperation between education and commercialism in the selection of talent. A vast field lies open for research in developing better music, drama, and sound effects. With the new developments in television we have additional scope for talent in engineering, in acting, and in script writing. This talent must come from the commercial networks, unless present noncommercial stations can find the money to attract sufficient talent to compete. It is the duty of the secondary school to offer some preliminary selection and training of radio talent. Those students really qualified must secure additional specialized instruction. Such vocational training hardly has a place in the elementary school because the pupils are too young to have serious vocational interests. Nevertheless, vocational aptitudes may appear in the elementary school. There is room here, too, for increased attention to the pupils' experiences with radio.

The classrooms of American schools and colleges will use radio if they can be certain that radio programs will give them material which they cannot better obtain elsewhere. If the educational program is presented attractively and is freely available, it will have an audience. Prominent educators are usually willing to give their advice and services, providing the programs are kept free from politics and propaganda. Merely transferring lectures from the classroom to the microphone, however, will not only make an educational program ineffectual but it will actually defeat all efforts to obtain and maintain an audience. Improved techniques are essential to the intelligent use of the medium.

Despite brilliant possibilities for bringing radio into the schools, the teacher must always be guided by his objectives. When he considers a radio broadcast, he must ask himself, "Will this instrument develop more desirable results for my pupils than ordinary teaching methods?" If the answer is "No," then radio is of no use in his classroom.

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Part II

Techniques of Teaching by Radio

Prepare, Listen, Follow Up

Methods of Teaching. Methods of teaching are so closely related to a general philosophy of education that it is almost trite to mention them. A teacher who has a well-defined list of educational objectives developed through careful study and thinking will have little concern for method per se. Such a teacher will adopt the correct methods to accomplish his plans. If one method does not bring desirable results he will try others. The teacher is a continuous inventor, explorer, and experimenter who will adapt all his methods to his own peculiar problems and individual pupils.

Experience with children, experience with reading, association with other teachers, and academic study for credit toward his certificate or degree will all contribute to flexible methods of teaching. Techniques of pedagogy cannot be learned from books nor even from other teachers. Suggestions from these sources will be useful only as they can be incorporated and adapted to his own way of teaching.

The following techniques of using radio as an instrument of education have been used by teachers. Success will not come by copying and following them verbatim. These suggested techniques may, however, inspire the teacher to experiment. They may provide a stimulus for the teacher to develop methods of his own.

The classroom teacher must be wary of accepting methods sent from sources foreign to his locality. In the first place, a teacher cannot be successful unless he has a feeling that his particular technique is designed to fit the needs of his pupils. When a teacher simply accepts the standardized lesson pattern submitted by another without attempting to make adjustments to his needs or his pupils, the result may well lack sincerity, vitality, and intrinsic value. Even though the indolent and disinterested teacher prefers to have instructions written out for him step by step in every detail, it is not wise for the experts — who should know better — to do it for him.

It is possible to speak of the use of radio as a classroom method just as it is to speak of the discussion method, the recitation method, the supervised study method, the project method, or the unit method.

Subject matter or other curricula materials can become a part of the pupil's education through the use of many media. These media may be called method. A uniform, standard, and "all-purpose" method, however, is neither efficient nor effective, since it disregards individual differences in both pupils and teachers. However, teachers who have used radio value it highly. For instance, in a questionnaire conducted in 1938, teachers who ranked thirty-five common methods of teaching gave the first rank to projects and individual methods of study; the second rank to student evaluation of materials, oral reports, problems, and individual instruction; and the third rank to radio.¹

The project method combined with the use of radio encourages both academic learning and a well-balanced development of the personality. Some instructors say that instruction coming from a loud-speaker, however authoritative its source, is directly opposed to modern theories of education. This depends, of course, upon the quality of the production and upon the way in which the individual classroom teacher uses it.

How Radio Contributes to Teaching Method. Radio is used as an aid in supplementing the work of the teacher; it is used for the purpose of enriching, stimulating, and supplementing instruction. Radio is an instrument the teacher may voluntarily introduce into his classroom to contribute information or to illustrate a situation that could not be effectively presented otherwise. Radio's contributions are timeliness, variety, space-bridging, direct emotional appeal to pupils, and inspiration.

Producers of educational programs are motivated by two somewhat conflicting philosophies. One group of producers offers direct instruction to the pupils by having master teachers conduct tests and drills on subject matter. Prior to the broadcasts teachers receive a pamphlet or manual giving suggestions for use of the program. All that is required of the teacher is to follow directions explicitly.

Another group of producers designs programs of wider scope for more comprehensive enlightenment. The teacher must depend upon his own resourcefulness in adapting this program for his own curriculum. This type of program requires freedom of choice, freedom of method, freedom of evaluation.

¹ Boyd F. Baldwin, "Radio as a Teaching Tool," *The Nation's Schools*, XXI (January, 1938), p. 42.

Children enjoy the novelty of the radio in the classroom. A well-organized and well-produced radio program can be most stimulating and helpful if it is carefully and intelligently integrated with the regular classroom work. Radio cannot enter the classroom because of its entertaining merit alone. At first the moving picture was used in the schools largely as an entertainment device, but now it has taken its place as a respected and a necessary teaching device. Radio will rapidly follow this precedent. As Belmont Farley has observed, "the best users of radio in the classroom are usually the best users of other tools of learning; they are the best teachers — teachers who appreciate the principles by which the human mind acquires functional knowledge, and who make all the tools that they use subserve these principles."²

The radio can enrich and supplement the work of the teacher. It brings into the classroom the voice of the explorer from an igloo at the South Pole. It records the commentaries of a news reporter observing a battlefield or a scientific experiment. In music it brings to the pupils some of the great artists that they might not otherwise hear. If a radio program can inspire its audience to read, to study, to talk, to discuss, and to think, it can accomplish something in education. Education by radio in the classroom is seldom realized, however, without the resourceful and imaginative teacher.

Where programs are designed for curriculum integration a deliberate attempt is made to choose comprehensive patterns, which may include cross sections of many different subjects, and to encourage pupils to develop new patterns of thought, experience, and learning. Such radio programs are designed to meet general objectives rather than specific needs. Any form of learning must fit into a frame of reference. Ideally, a radio program should fit naturally into the child's daily experience. This is, however, a rare situation without the help of the classroom teacher.

A skillful teacher can often find a radio history dialogue useful in the teaching of writing, speech, arithmetic, science, spelling, drawing, or music. A lesson in geography may provide instruction in language, written composition, civics, nature study, general science, reading, penmanship, or hygiene. Close correlation is sometimes

² Belmont Farley, "Look and Listen," *Journal of Educational Sociology*, XIV (May, 1941), pp. 522-23.

difficult. In such cases it is best either to omit the program altogether or to leave it intact. The teacher must always make the final judgment as to whether the time devoted to listening to a radio program is better employed than it would have been in the normal routine of the school. The selection of a program is an important task. A poor program cannot be made better by elaborate preparation and follow-up procedure. On the other hand, some programs do not require "lessons" preceding or following broadcasts at all.

The Three-Step Method. The traditional three-step method of using radio in the classroom may be designated as the "preparatory, participatory, follow-up" method. It has been frequently claimed that unless all three steps are followed religiously a radio program is practically valueless. To illustrate an extreme case: one half-hour might be spent in discussion of what the radio program offers, the next half-hour in listening, and the following half-hour in discussion of the program or in activities emerging from it. This means that one and one half hours out of the usual six-hour school day would be devoted to a single radio broadcast. Time is too precious to allow so much time to a program each day.

The preparation for a broadcast depends largely on the type of program and especially on the interests and needs of pupils. Participation may take the form of looking at illustrations, taking notes, writing impressions, drawing pictures, looking up words in the dictionary, pointing to places on a map, or answering test questions.³

Regardless of the name given the procedure, the ideal method is to adapt radio to the general continuity of the planned curriculum. Radio programs must fit into education as a continuous constructive process. Radio education must contribute to the pupils' development of thought, attitudes, and achievement. Otherwise there can be little benefit from exposure to a fifteen- or thirty-minute program. Unless the pupils are prepared to profit by continuous radio experiences, time is wasted by the exposure.

Even when radio programs are definitely planned in a carefully arranged sequence, there remains the problem of relating the series to other familiar school situations experienced by the child. Until local radio courses of study are developed to meet local and regional

³ For an early discussion of this method, see Margaret Harrison, *Radio in the Classroom* (Prentice-Hall, 1937), p. 703.

needs, we must rely on the educational programs distributed by the national networks. This means the teacher is constantly required to reinterpret and adjust these national programs in the light of local and regional problems.

Preparation. In introducing any new educational material, good teachers spend much time in preliminary preparation. For instance, a good teacher will not assign reading, composition, or art until he himself has gained sufficient familiarity and background to lead the class toward the desired objective.

The nature and extent of pupil preparation and participation with classroom radio programs depend upon the broadcast, the teacher, and the pupils themselves. Some musical programs which are broadcast for classroom use, for instance, require the pupils to march, dance, or keep rhythm with hands or feet. Such a program can succeed only if the participants know the songs to be sung or understand the physical activity required. Often science programs require that the pupil be given previous background preparation by means of visual aids or excursions. A social studies radio broadcast may demand an intense preliminary discussion, which in turn follows extensive directed reading. In such a case, books connected with the subject should have been made familiar to the class far in advance of the broadcast.

Planning preparatory activities also depends upon the age of the child. The upper grades, for instance, can well profit by good preliminary or follow-up discussion of a current news broadcast. On the other hand, it is useless to spend much time in preparing young children for a broadcast unless perhaps it be a music program which calls for pupil participation.

The amount of time devoted to preparation depends entirely upon the objective of the teacher. If the objective is to influence attitudes, for instance, the teacher may wish to spend time in giving a preliminary attitude test to be used as a basis for determining what changes of attitude have resulted from the broadcast. At other times the teacher may do little more than set the scene and introduce the program.

Many teachers believe that a well-prepared educational broadcast needs no preliminary class preparation. Robert Wyatt declares: "I do not believe that we should have preparation preceding a show.

If the show cannot come in and interest my students, I see no reason why I should write the script for the people who are putting on the show. In general, I think our [Detroit Public Schools] programs do that, but I believe also that we have killed a lot of radio by intensive preparation preceding it and check-ups on it after it is over. It has ceased to be fun, in the language of the child, and I should let the program stand on its own or fall on its own."⁴

Radio in the classroom can be one of the most important sources of information. It can render often in a more interesting and economical manner the same service as books, magazines, newspapers, or movies. However, the teacher should exert some effort to prepare for the broadcast. Pupils will profit most by lessons which dovetail readily with previous schoolwork as an outgrowth or carry-over from foregoing lessons. Previous consideration will prepare the pupil to understand the broadcast, thus enabling him to remember and to use new information.

The first objective of preparation is to have the pupil mentally ready for what is to come. This preparatory motivation should create a sense of expectancy, of intense interest, and of mental receptivity. Teachers are beginning to realize that there is more to using radio than merely turning a dial, and radio specialists are expecting more from the educators than passive acceptance. Education cannot be poured in through the ears. Learning can occur only as the result of some reaction and response from both pupils and teacher.

Arousing Student Interest. It is a first principle of pedagogical science that learning reaches its highest effective level when the learner feels a need for what he is to learn. This principle is vital also in radio teaching. If his interest is not aroused, the listener will switch the dial of the radio or turn his mind to a more lively activity. The best educational broadcasts contain sufficient color and showmanship to arrest and maintain attention. The success of even the best radio programs, however, depends on the ability and attitude of the teacher who introduces them to his class.

A felt need is often associated with motivation. The teacher must be cautious, lest the need and motivation for listening are artificially

⁴ Robert D. Wyatt, "Utilization of School Broadcasts," *Education on the Air* (Ohio State University, 1939), p. 286.

fostered by external devices. Caution, for instance, must be observed in announcing that a test will be given immediately following the broadcast. Used as the means for grading pupil achievement, short objective tests after a broadcast present a threat to the pupils' voluntary evaluation of a program. A test on the content of a radio program should not be used to determine the grade on a pupil's report card nor to obtain a pupil's standing in class. Moreover, not until the information heard on a broadcast is incorporated into other patterns of learning can it be measured by any form of test. Radio lessons may have educative values not measurable by tests.

The objective of some educational broadcasts is principally to stimulate the listener to further activity. "The real value, as evidenced by most of the successful broadcasting policies, is the student motivation factor, the element that arouses in pupils the ability to prepare and present themselves while in school in the same manner used by successful people in and out of school life. The radio program, with its increased frequency of presentation, is taking the place in modern school life of the declamation and spelling contests of past generations."⁵

The following is an excellent example of the manner in which some educational broadcasts attempted to stimulate participation in their pupil audience. The Alameda City School of the Air announced by radio and in a bulletin that it would broadcast a program about any locality which would supply material about the history of the town or region, or the life story of an interesting and important local historical figure. Teachers and pupils cooperated on these projects, and a program related to each region was presented. Pupils interviewed local pioneers, visited local historical landmarks, studied old diaries and letters, and engaged in research about their district. They reported on the material they collected, and the information was used in radio scripts.⁶

Teaching the Pupil to Listen. Observation of any group of pupils during a radio program will disclose marked individual differences in ability to listen to broadcasts. Perhaps the child's ability to listen is affected by habits of concentration, by differences of emotional

⁵ Carroll Atkinson, *Education by Radio in American Schools* (George Peabody School for Teachers, 1938), p. 101.

⁶ Erle A. Kenney, "The Alameda City School of the Air," *Local Broadcasts to Schools* (University of Chicago Press, 1939), pp. 215-16.

response, or by differences in past experience. It is certainly worth while to attempt to teach any child to acquire good listening habits so that he may receive maximum educational benefit from radio broadcasts and learn to discriminate between valuable and trifling programs. The following pages will be devoted to a discussion of training the pupil to listen. Discriminative listening will be discussed in a later chapter.

In teaching the child to listen, the first task is to change the "mental set" to which he has been accustomed. The average home listener turns on the radio for purposes of relaxation and amusement. Seldom does he want to learn urgently enough to use concentration and serious thought. The pupil, then, must be taught to appreciate the more serious radio broadcasts and to realize that the instrument offers educational possibilities as well as a rich store of entertainment.

It has often been claimed that radio is conducive to passive listening. The seriousness of this accusation depends on the definition of "passive." Participation does not necessarily have to be physically active. So-called passive listening is sufficient if we are certain that independent mental activity is occurring. Mental activity is difficult to measure, however, and its absence may not be discovered until it is too late. The ear is a good receptor for educative stimuli and the radio is a good instrument for transmitting these stimuli to the ear. Pupils must be adequately trained to aural response, and producers of educational programs must be trained in the art of appealing effectively to the ear.

Methods Used to Train the Listener. It should be mentioned again that a well-produced program will sustain the listener's interest without the necessity of any overt activity on his part. Traditionally, both classroom teaching and educational broadcasts have lacked the quality of showmanship. Programs were too often presented as a talk or lecture by educators who were not trained in radio technique. More recent programs fortunately possess the qualities of showmanship along with a high educational standard. This eliminates the necessity of using artificial and extrinsic means of sustaining attention during the broadcast.

Physical activity, such as looking up words in a dictionary, writing down direct quotations, and even taking notes, may distract the attention and concentration of the pupil. Generally, too, it is unwise

to announce that a test will be given on the broadcast. Mental anxiety about the test may prevent the pupil from getting the full benefit of the program. Moreover, tests are usually more beneficial if given after ample time has been spent in integrating the program with other schoolwork. The test may then include items on material other than that contained in the broadcast alone. Educators are not agreed on this point. Some teachers feel that filling out forms, or giving short tests while listening, will help pupils of limited background to focus their attention on the subject matter; others feel that such devices should seldom be used.⁷

An excellent procedure is to have the pupil reconsider a program with teacher and classmates. Together they may make comparisons, examine supplementary material such as pictures or pamphlets, or plan further reading and discussion. The pupil should be encouraged to ask such questions as "Why did Tom hear more during the program than I did?" "Do other pupils know more about the subject than I?" "Do other pupils picture things in their minds better than I?" "Why can Mary and Joe remember things about the program which I cannot recall?"

Development of listening skill is encouraged by preparation for listening. The pupil should prepare for what he expects to hear. For older pupils this preparation may consist in reading material about the expected subject matter, or it may consist of writing down topics which might be mentioned. For younger children the teacher may describe the background or the characters to be included in the broadcast.

During the program the pupil may be taught to listen with a purpose. If he is to listen for technique he should be taught to observe dramatic mannerisms, sound effects, voice quality, and so forth. If he is to listen for the subject content of a speech he should be taught to observe the main ideas in introductory paragraphs and the divisions of the speech; he should give attention to ideas rather than to the manner of expression. Usually the speaker uses definite key words, phrases, or sentences around which ideas are built, and the listener should be trained to note these spontaneously.

Can the pupil be taught to relate material heard in the broadcast to his own ideas? Can he be taught to challenge statements made by

⁷ *Education on the Air* (1939), p. 355.

the performers? Can he be taught to visualize the scenes he hears described on the broadcast? These are all questions to be considered in teaching the pupil to listen. Listening is improved, too, if thinking is continued after the broadcast. The teacher should guide the pupil to formulate his own ideas on the subject and to challenge the speaker's logic and conclusions.⁸

The teacher can also play an important role while listening to a broadcast. In the first place, he should be a model listener; never should he use the time to correct papers, read a newspaper, or write reports. Neither should he show indifference by leaving the room. If the broadcast is offered as a lesson the classroom teacher must cooperate enthusiastically with any directions given. Besides giving evidence of being an attentive listener, he should at the same time be observing the pupils. He will have the opportunity to note their listening habits and receptivity. He can watch their faces as they listen and note individual differences. He can gauge impressions and observe reactions. During the broadcast he may consider such questions as "What part of this broadcast is making the greatest impression?" "Are the pupils following the sequence?" "Are they missing anything of importance?"

Under no circumstance should the radio be used as a substitute for discipline. A radio program should never be introduced to quiet down an obstreperous and unruly class. Teachers have been known to turn on the radio to divert their pupils from some prank. On the other hand, teachers have been known to deprive a class of a broadcast as a means of group punishment. Absolute quiet is essential. A noisy class cannot hear the program properly nor receive educational benefit from it.

Listening skill does not come naturally, nor is it necessarily developed by constant radio attendance at school and at home. It can be acquired with the proper guidance of a wise teacher who knows how to diagnose the difficulties and careless listening habits of pupils who have been used to thinking of radio only as an instrument of entertainment. Listening skill is as important as reading, writing, and speaking skills. Its development merits a respected place in the curriculum.

⁸ R. W. Frederick and P. K. Winkler, "A Guide to Listening," *Education on the Air* (1934), p. 349.

Importance of Group Listening. Group listening is desirable whether the group be a class in school, an organized group who meet to listen together, or a family gathered around the radio at home. It is believed that if the child is taught to listen with a group at school it will prepare him to participate later on in one of the most efficient and long-lasting educational devices. Educational broadcasting in the classroom certainly should lead to better discussions within the family circle. Group listening naturally leads to group discussion. It takes experience, skill, and teaching to develop suitable group discussion technique. (The development of a group discussion technique may be found in our chapter on social studies.)

Through the forum program radio offers two or more points of view regarding various subjects to a wide audience. Listeners are encouraged to consider these questions during the programs and then to carry on a discussion of the issues among themselves after the broadcast. The potential benefit from such definition and exchange of ideas is invaluable.

Physical Environment for the Radio Broadcast. Effective radio education requires detailed classroom management, including the physical arrangement of lighting, ventilation, freedom from noise, and a suitable seating arrangement of pupils. Good seating arrangement is itself a part of the technique of teaching.

Enthusiastic teachers who are unable to secure equipment for reception within the classroom have had to use the auditorium where one radio serves the entire school. Generally the use of an auditorium has discouraged teachers who have tried it. One teacher observed that when two hundred and fifty children listened to radio lessons on safety in the auditorium for one semester, the results were better than when no broadcasts were used.⁹

Another teacher reported a plan in which classes could listen to broadcasts in the auditorium during the final period in the morning. Arrangements should be made to allow the first ten minutes for setting the stage to receive the program, the next fifteen minutes for the broadcast, and the last fifteen minutes for a discussion with the teacher to crystallize whatever was learned from the program.¹⁰

⁹ H. M. Buckley, "The Cleveland Schools," *Local Broadcasts to Schools* (University of Chicago Press, 1939), pp. 82-83.

¹⁰ E. H. Whitney, "Portland, Oregon, Schools," *Local Broadcasts to Schools*, pp. 139-40.

Certain advantages may result from having large groups meet in an auditorium. One class may stimulate another, one set of visual material may serve several classes, and a capable teacher in charge of the lesson may demonstrate excellent listening habits. If group reactions to a broadcast are desired, larger groups in the auditorium may be advantageous. This is particularly true when morale, whether school, community, or national, is the prime consideration.¹¹

Classroom reception is more valuable for most programs, however, than auditorium reception. Meeting in the auditorium removes pupils from the familiar setting of their classroom and its regular routine. As a result, radio does not enter easily and naturally into the learning situation. Not only does the necessity for moving disrupt the class, but it may also distract the teacher from giving the program its proper share of attention. Moreover, when pupils are out of their accustomed environment, their attention span is more limited and they are not in a situation conducive to the best educational results. There are other factors to consider. The increase in volume required for using radio in the auditorium may distort the sound. It is the classroom that offers the more natural environment, calling for fewer adjustments by pupils and teacher. Some lessons, also, are not suitable for auditorium use. A science lesson, for instance, should be broadcast in the science room, where facilities for display and demonstration are accessible.

Small radios are not well adapted for use in large rooms. They may be an indispensable article of equipment in the ordinary classroom, however. When a small radio is a part of the classroom equipment it can be tuned in for any number of programs during the day. Early morning news, for instance, can be heard before the school day begins. Furthermore, the radio can be used by individual pupils or small groups during the noon hour and after school.

Before a radio broadcast is introduced into the classroom all precautions should be taken to make the room as free from outside noise as possible. An open window near a playground or a transom opening into the hall may prevent good listening. Sometimes sight is as distracting as sound, and it may even help to draw the blinds over the windows. Outside distractions are then minimized. As in any lesson, ventilation and room temperature should be carefully regu-

¹¹ H. M. Buckley, *op. cit.*, pp. 82-83.

lated. Such visual aids as pictures, charts, globes, maps, models, blackboard outlines, drawings, decorations, and display materials should be accessible for pupil or teacher use. If written material such as word lists or questions is to be put on the blackboard this should be done before the broadcast begins. The pupils' time should not be wasted, nor their attention diverted, by watching the teacher write on the blackboard.

The seating arrangement of pupils is important, especially if it is necessary for several classes to meet together. When several groups of children are seated in close quarters, the atmosphere is not conducive to close attention to schoolwork. Whenever possible the normal seating arrangement should be resumed even in the new environment. Sometimes the seating arrangement will require that the class be organized into groups or clubs. The members of each group can take responsibility for particular points of view or report certain details about a radio program. Each group may be appointed to listen to a different radio program, then make reports to the whole class. It is not too confusing to allow a group to listen in another room, in the hall, or even in one corner of the classroom. This would not be an unusual situation for the one-room schoolteacher. In fact, the urban teacher could learn many things from the rural teacher in matters of organization and group responsibility.

For the upper grades the teacher might find it desirable and profitable to organize a listeners' group using the service of the "Town Meeting of the Air." Materials, bibliographies, a discussion manual, and a book can be obtained for a small fee.¹² Thousands of groups over the nation are using this plan of organized group activity, and several schools are participating in a "Junior Town Meeting of the Air" series.

As in any other method of instruction, the teacher must recognize the individual maturity levels of all his pupils as well as their various listening abilities. He must also allow for their different reactions to the dramatic elements of a program. Because of the wide range of these individual differences the educational program may be directed to reach a large audience — possibly a range of four grades. It is impossible, if for no other reason than lack of scientific data, to design radio programs for a fixed grade level or for a fixed chrono-

¹² Write to Town Meeting of the Air, Town Hall, New York, N.Y.

logical or educational age. The teacher can master this situation by organizing his pupils into natural groupings, thus obtaining maximum flexibility and individual adjustment. This means, of course, that occasionally some pupils within the classroom may be listening to radio programs while other pupils are doing other things.

A teacher should not leave the room while a broadcast is being made. The pupils would soon imitate his indifference. A teacher's personality should be as positive an influence during the broadcast as it is during daily instruction. No rules can be given for the teacher's activities during the broadcast. Perhaps he can be pointing to maps or blackboard notes, or perhaps he can merely play the part of an alert listener. Remaining near the receiver will also enable him to adjust the tone control to obtain a correct audio-balance. Making these adjustments from a position near the speaker, he must consider audibility for all parts of the room.

Organizing the Class for Radio Education. Several illustrations can be given as to how the class may be organized for beneficial results. It has been suggested that in each listening class there can be appointed a "chief of staff," a "recorder," a "weather observer," and other class officials to aid in the study of science. Each pupil would have definite assignments of what to observe or record. The "recorder" is expected to record the class opinion of the most interesting and the most significant facts of each broadcast. This helps the class to define and clarify information they hear. If some of the reports are forwarded to the broadcasting agency it may help to establish a contact and serve as a most important guide to the broadcaster in acquainting him with the interests and needs of his audience.

Another teacher offers this suggestion of using a series in current events.¹³ One group may consider the geography of current events for the week and compile a list of all the places mentioned. Another group may listen for references to historical subjects and write down suitable words or phrases about the event. The third group may be on the alert for scientific news of the week. The fourth group may serve as reporters, covering the news in civics, politics, and religion. Other types of news events may be listened for by additional groups. At the end of each week the total findings may be presented to the class.

¹³ Harrison Sayre, "Current Events," *Education on the Air* (1930), p. 360.

Teachers who use radio are often very resourceful. For example, one teacher in a three-room school observed the great amount of material on the air which could be advantageous to her students. Inasmuch as no class time was available, the teacher had to rely on out-of-school listening. She organized the class into groups or clubs according to interest, each child belonging to a particular club. Members for each club were selected from each grade, so that at least one child in each class would be able to hear each program under consideration. Members of each club were responsible for broadcasts along the lines of their interests. During morning exercises the clubs took turns in reporting on programs. Besides enabling the pupils to sample a wide variety of programs, this procedure helped them develop individual responsibility and group cooperation.¹⁴

It is a sound plan, too, for one child to listen to a radio program and report to other members. A pupil of the sixth, seventh, or eighth grade, for instance, may report on broadcasts emanating from a certain locale, programs about a special subject area, or a certain kind of program.

Discussion as Preparation for a Broadcast. Probably the most common way to prepare pupils to listen to a radio broadcast is some form of group discussion. The discussion method requires a teacher well trained in its potentialities and techniques. A detailed account of these values and techniques will be given in Chapter Fifteen. At present we shall consider them only as they apply to preparation for the broadcast.

A carefully conducted discussion will do much to help the pupils clarify their beliefs and knowledge. It will aid in developing pupils' ability to think critically. Class discussion shows the teacher how to adjust the broadcast to the school curriculum. It is a valuable method when used to precede or follow assigned library reading. Two or three members of a class can serve as radio program librarians and locate books in the public and school libraries that are pertinent to the subject of a broadcast program or series.

Discussion is most effective when it follows spontaneously as a result of the radio broadcast and as a result of good stage setting by the teacher. Some teachers encourage discussion as much as two or

¹⁴ Margaret Harrison, "The Teachers' College Experiment," *Education on the Air* (1930), p. 215.

three days before the broadcast is given. Others think the best time for discussion is in the five or ten minutes before the radio is turned on.

The discussion period allows the teacher time to define unusual words if he has an advance listing of them in a manual. The discussion may also be directed to a list of questions which the teacher has written on the blackboard or has had mimeographed for the pupils. It is good practice to encourage pupils to anticipate questions regarding the broadcast and to consider questions besides those given in the radio bulletins. Maps, pictures, and concrete objects are usually effective for promoting discussion before the broadcast and should be used whenever possible.

The Assignment as Preparation for the Broadcast. Listening should be purposeful; therefore pupils should be given something definite for which to listen. The specific purpose is enforced by careful definition and explanation, a detailed account of expected difficulties, and an anticipation of the theme of the broadcast. Some teachers have found it effective to distribute mimeographed guidance sheets to pupils. On the mimeographed sheet is given a brief outline of what the broadcast is likely to cover, and suggestions as to how pupils can make use of it. If mimeographed sheets are used they should be saved for reference and review along with any other written work connected with the broadcast.

The teacher may ask his pupils to write down the main points of the material presented in the broadcasts. Such an assignment can be given with success only to older pupils who have had experience in note taking. Too long or too difficult assignments will lessen the pupils' pleasure in the broadcast.

Preparation to Prevent a Passive Attitude. When "passive listening" is defined as a lack of overt activity it has been considered by some teachers as desirable, especially if it can be certain that mental activity is occurring. Other teachers are inclined to distrust the passive attitude and require some evidence of active participation from their pupils. Older pupils, for instance, may be required to take notes on the radio program, write down new words, new pronunciations, or new ideas. Listening is a form of activity. The difficulty lies in knowing how great and how intense this activity is. The child should be encouraged to feel that he is a participant in the broadcast. The radio is a uniform, somewhat mechanized type of instruction. If not care-

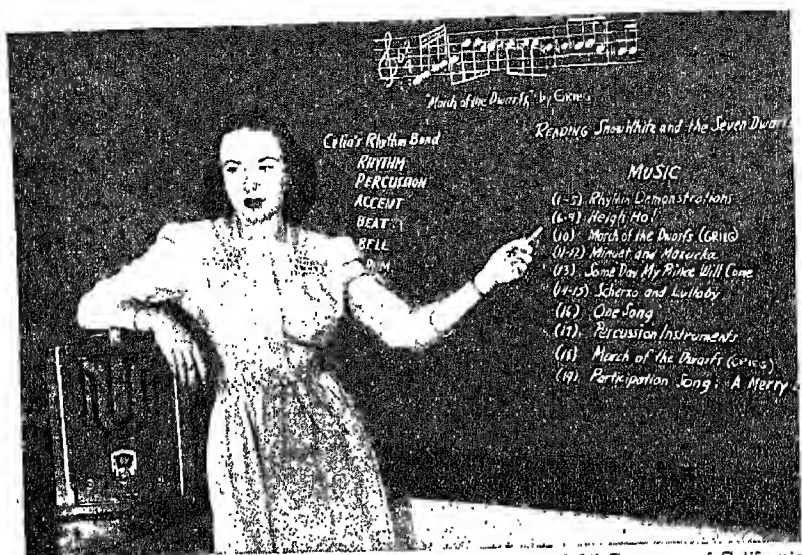
fully handled by the classroom teacher, radio may tend to foster passive acceptance, especially when the listener has been accustomed to radio as a source of entertainment during out-of-school hours. The classroom teacher can do much to remedy the situation by creating a proper background for each broadcast and by making adjustments for individual differences after it is over. Then, too, educational broadcasts are improving in quality and showmanship, and in intellectual appeal as well. Moreover, teachers' manuals and publications such as the *Journal of the AER* and *See and Hear* are offering many suggestions for self-directed activities to enhance the use of broadcasts in the classroom.

Norman Woelfel and Kimball Wiles¹⁵ report a study in which the most frequent types of classroom preparation activities engaged in by teachers were these: making and posting notices, making necessary seating arrangement and room adjustments, testing the radio, consulting the manual that accompanied the broadcast, and planning to correlate probable broadcast content with regular class activities. Frequent mention was made of the class's efforts to anticipate program content, their examination of illustrative or exploratory material, and the maintenance of a few seconds of silence preceding the broadcast.

Listening. There is a real danger if a teacher becomes a mechanical slave to a "preparatory, listen, follow-up" plan of procedure. Not every broadcast needs a period of preparation. Nor does every program require activity during the broadcast other than the listening activity itself. Some programs are so complete in themselves that a follow-up period is unnecessary. The teacher should not slavishly follow any standard routine. He must be free to determine his methods in each particular case. The radio program is merely one part of the teacher's over-all plan of instruction and is merely one instrument for accomplishing his objectives.

The nature and extent of pupil participation during a radio broadcast depend upon the nature of the program itself. Some programs, for instance, call for definite activity from the pupil, such as drawing a map, answering questions, or singing with radio music. For such programs the radio teacher usually gives instructions.

¹⁵ Norman Woelfel and Kimball Wiles, "How Teachers Use School Broadcasts," "Evaluation of School Broadcasts," Bulletin 42, reported in *Journal of the Association for Education by Radio*, 1 (February, 1942), pp. 3, 11, 12.



Standard Oil Company of California

A Carefully Planned Class Discussion Will Increase the Benefit of the Broadcast to Follow.



Standard Oil Company of California

Preparation for the Program Is Important if the Teacher Expects the Class to Gain a Full Understanding of the Broadcast.

The learning which occurs from an educational program is the result of cooperative effort between classroom teacher and radio broadcasters. The teacher should do everything possible to help the broadcast hold the attention of the children. If the program offers oral exercises or requires group singing, the pupils must be encouraged to participate. If questions are asked, pupils should be encouraged to answer, either by replying aloud or by writing the answer down. If pupils have manuals or mimeographed material they should be helped to refer to the pictures or diagrams at the suggestion of the broadcast speaker.

Question of Pupil Activity. Many educational broadcasts purposely attempt to avoid the need for any pupil activity during the broadcast. They also encourage teachers to refrain from requiring pupil activity. "We believe," says one writer, "that maps, pictures, etc., should be shown and explanations made before the broadcast. Any visual material to be consulted by pupils should be placed before the broadcast. During the program pupils should devote themselves to listening and 'living in' the broadcast. Teachers are urged to sit quietly during the program and set their pupils an example of attentive and interested listening. No teachers in Alameda point to maps, etc., or write on the board during a program, and we sincerely hope that no teachers elsewhere do, either. If any program of ours were so unclear or so complicated as to require such assistance from the teacher, we would consider that program a lamentable failure."¹⁶

Certain types of listener participation should be avoided as being trivial. First of these are the contests intended to create a large mail response; listeners are asked to suggest names for new products or write slogans, for example. Participation in the various "courts of advice," in which the listener supplies the questions from his domestic problems, should also be avoided. Such programs are seldom used by the discriminating classroom teacher. Broadcasters of educational programs should attempt to choose material that will be a definite stimulus to the mental activity of the pupil. Facts must be presented and interpreted in a colorful manner. Too many facts should not be given in short programs. Pupils should be taught to listen for major facts — high peaks of information.

¹⁶ Erle A. Kenney, "Alameda City School of the Air," *Local Broadcasts to Schools*, p. 201.

When educational broadcasts are given as instruction in special subjects, the radio teacher may require activity from some pupils while others observe. For illustration let us cite a series of science broadcasts during which pupils do not merely sit passively. They examine material, make observations, and conduct experiments in order to illustrate the fundamental science concepts. To make pupil activity an integral part of the science broadcast, one radio teacher found it helpful to divide the class into seven groups, with a leader for each. The broadcaster could then call upon the leader in group 2, or all those in group 6, to find the answer to a given problem by conducting an experiment or by observing specimens or slides. The broadcaster then pauses a few seconds to allow for these various activities. In such a procedure almost one third of the science radio lesson time is devoted to pupil reaction.¹⁷ Listener participation has met possibly its greatest success in music. Pupils like to sing along with the studio performers, and skills and appreciations are often acquired in this way. Sometimes the school listeners have even been asked to follow directions in learning to dance.¹⁸

Certain forms of physical activity during a radio broadcast may be advocated by teachers' manuals issued by the producers. Classroom teachers also suggest some types of activity. While note taking may be described as a form of physical response, generally the reference is to such activities as looking at pictures, tracing routes or locations on maps, drawing diagrams, or singing. Extraneous activities should be minimized during the broadcast to avoid confusion and loss of attention.

Taking Notes during a Radio Broadcast. Whether or not pupils should write notes as an aid to remembering the main points of a program is a disputed question. Some educators ask pupils to sit at tables with pencil in hand ready to make a detailed outline of what they hear. The theory is that note taking helps the pupil focus attention on the cardinal points of the particular program in progress and may offer training for the future when the ability to take good notes may be an important asset.

The argument is also advanced that note taking develops the ability to determine salient points from the broadcast. It teaches the

¹⁷ H. M. Buckley, "The Cleveland Schools," *Local Broadcasts to Schools*, p. 78.

¹⁸ Franklin Dunham, "Listener Participation," *Education on the Air* (1937), p. 111.

pupil to look for speech outlines, dramatic organization, or conflicting issues. Those who advocate the practice of note taking emphasize that the principal advantage rests in training the pupil to listen. If the pupil knows he will be held responsible for what he hears, he will listen more attentively.

Teachers also find that the notes taken during a broadcast can be used as a basis for evaluating the ability of the pupil to concentrate and to recognize major points. They are also useful in estimating the ability of the program to make facts, issues, and arguments clear. Still further, notes may serve as a reminder; a word or a phrase may refresh the pupil's memory.

A most important argument against note taking is that such a practice interferes with thinking. Can the pupil write and listen at the same time? Moreover, the pupil writing in longhand cannot keep up with the program. If the pupil knows his notes are to be carefully examined and graded, he may suffer from a mental block. Nor does the confusion resulting from rattling paper or scratching pens produce good listening conditions. Pupils often resent having to take notes about a program; a negative attitude toward educational programs in general may result.

From the arguments for and against note taking we can conclude that the practice is not beneficial in the lower grades. Seldom do beginning pupils have the writing skill to do an adequate job. If notes are required in connection with broadcasts, then definite training must be given in the skill required. We can conclude, too, that if notes are taken, these notes should be used. They should never constitute a mere hurdle or a "make-work" project. Perhaps they can serve as material for a composition; perhaps they can be used as a basis of discussion or for formulation of questions; or perhaps they can be filed and re-examined and used at a later time, or used as a basis of comparison with later note taking, as the pupil becomes more competent.

Teacher Activity during the Broadcast. The teacher should always listen to a broadcast to which he asks children to listen. Normally his position should be in front of the class where he is able to observe the individual habits of listening. He may want to write down questions and facts as they arise during the program. Places mentioned in the broadcast may be located on maps, and products or pictures

described may be displayed. As has been said before, this supplementary material should be made available prior to or following the broadcast in order to avoid distraction.

Inasmuch as pupils react to the teacher's attitude toward the broadcast, the instructor's sincerity, attentiveness, and even facial reactions may contribute to the success of program reception.

Follow-up. Few educational programs are broadcast in the school-room which cannot be made more effective by what happens after the broadcast. This follow-up period requires all the teacher's skill and ingenuity. The activity might be spontaneous discussion, though the teacher usually must offer subtle guidance in drawing out the pupils and permitting them to express themselves freely about the content of the broadcast. Even the finest program, however, can be ruined by stereotyped procedure, routine questioning, routine tests, or an uninspired reiteration of statements and facts. Lack of confidence in classroom teachers often leads some radio program producers to recommend no participation at all.

The type and extent of activity depend upon the kind of program, its objectives, and the imagination of the teacher who works with the pupils. If the radio lesson is to serve as a springboard for further class activity, follow-up procedures are essential. The teacher who adapts his methods to meet the needs of his pupils must make the final choice of follow-up activities. The consideration of whether a follow-up is necessary is determined by the extent to which the program may enrich the curriculum. Usually the teacher must attempt to integrate carefully any educational material with the present experiences and lives of the pupils. This demands plans for future programs and activities as well as efforts to relate the new educational material with past schoolwork. Fortunately, the information which comes over the radio is already up to date. Radio can aid in keeping the classroom work in harmony with present social, historical, economic, or scientific developments.

The teacher need not depend entirely on his own knowledge and experience in devising ways of using the educational broadcast. The national and local stations which produce programs for school use usually prepare manuals and supplementary materials, which give valuable suggestions.¹⁹

¹⁹ For a discussion of sources, see chapters on specific subjects.

Suggested Follow-up Activities. Follow-up activities can be classified into two types — that at the close of the broadcast, and a more leisurely, general follow-up which comes at intervals during later classwork. The immediate follow-up is specific and may consist of brief questions and discussions, expression of opinions, and plans for future work. The later follow-up consists of further reading, reports, experiments, interviews, conferences, and some creative endeavor. Small groups or individuals study special aspects of the broadcast, such as historical personalities and episodes, national customs, scientific experiments, or literary values. Wide latitude for individuality and differences in abilities and interests of teachers and pupils is permitted by this latter type of follow-up activity.

It is vitally important to insist on a minute or two of absolute silence after each broadcast so the child can think about the things he has just heard. A period of quiet is as vital a factor in the enjoyment of a broadcast as it is after finishing a book or hearing a musical selection. The child is thus allowed time to integrate the experience offered by the broadcast into his pattern of living.

A frequent but inadequate form of follow-up after a radio program is the assignment of a composition on topics suggested by the program. Another variation is the short oral report upon various phases of the broadcast. The written or oral composition is poor discipline if the pupil regards the activity as an assignment from the teacher. The pupil must feel desire for his work, not compulsion.

A more effective follow-up activity is the planning and organizing of notebooks containing facts and interpretations presented by the radio and later discussed in class. The notebooks are used as a basis of review, as a means for correlating the radio broadcast with other subjects, and as a basis of evaluation.

After listening to news broadcasts pupils often search the daily newspapers for further details. Sometimes they go to reference books to discover further data to use in making reports, illustrating stories, or locating geographical regions.

By far the most common form of follow-up is discussion. Good discussion requires specific training in the art of conversation, in learning how to talk and listen. Topics are sometimes discussed from memory, sometimes from notes. The teacher serves as a member of the group and as a member he may enter the conversation. It is his

duty to point out certain interpretations and opinions. He should guard against an artificiality in follow-up discussions. Artificiality usually arises from conforming to set routine day after day, from centering the discussion entirely around one topic or one point of view suggested by the broadcast or from failing to relate the discussion to the personal experiences of the pupil. Usually discussions can be improved by observing the suggestions given in the teachers' manual. Follow-up discussions need not be stereotyped; the teacher should be eager to relate each program to local school curricula, to the community, and to the individual.

Teachers have not overlooked the importance of evaluation as a follow-up activity. Well-meaning teachers, however, have sometimes overestimated grading as a device. Pupils, for instance, cannot listen attentively if they anticipate the threat of an examination immediately after the instrument is turned off. The amount of distraction resulting from anxiety, however, is determined largely by the purpose for which test results are to be used and upon the attitude of the teacher. Administrators have been known to use test results with the misdirected purpose of checking the efforts made by the teacher or for grading pupils on the ability to listen. Teachers whose classes show persistently low grades in listening when compared with other grades are goaded on to further effort. In desperation the teacher may turn to stereotyped methods of instruction. This may result in lack of originality and in the crushing of the spontaneity and receptivity which are necessary for radio instruction. On the other hand, if tests are used later on as a basis of review or to emphasize the material presented in the broadcast, the result may be most beneficial.

Reports from Teachers on Follow-up Activities. According to teachers polled in a survey in Wisconsin, nineteen kinds of activities were reported as growing out of radio broadcasts. It was reported that most often pupils engage in making scrapbooks and collecting specimens. Many teachers reported that some of the pupils were stimulated to activities over and above classroom assignments.²⁰ In the report of Woelfel and Wiles²¹ over a hundred utilization practices were listed. These activities were classified as follows:

²⁰ *Radio in the Classroom* (University of Wisconsin Press, 1942), p. 64.

²¹ Norman Woelfel and Kimball Wiles, *op. cit.*, pp. 3, 11, 12.

Items on activities preparing for the broadcast	29
Items on activities during the broadcast	17
Items on possible follow-up activities	41
Items on conditions while listening	14

Activities reported least frequently were specific exercises to make the pupil auditory-minded, imaginary journeys suggested by the broadcast, having guests speak on the topic, and visiting a radio station to observe a broadcast.

All follow-up activities are based upon the fundamental experiences of speaking, reading, writing, or collecting. For example, a child may wish to write letters to a performer or sponsor, or he may wish to list new ideas discovered through the program. Another child may collect pictures, maps, and specimens to illustrate his new ideas. We must not discount the artistic methods a pupil may choose as means of self-expression; for instance, he may draw or paint a descriptive picture of persons or places in the broadcast, or he may re-enact the story. An examination of the list of suggested follow-up activities may help the teacher to see possibilities for his own pupils.²²

1. Collect pictures relative to the program.
2. Take a test on the program.
3. Make a vocabulary list of new words heard in the lesson.
4. Discuss points emphasized in the radio lesson.
5. Undertake some research about the subject or engage in some creative expression.
6. Fill in questionnaires.
7. Complete any work begun during the lesson.
8. Ask teacher assistance with individual problems.
9. Compile notebooks.
10. Read books suggested in teachers' guide.
11. Summarize major points of the radio lesson.
12. Use slides for illustration.

The Use of Visual Aids with Radio Education Broadcasts. Multiplicity of sensory impressions is a part of all learning experience. Because radio appeals primarily to one sensory impression, visual

²² For a more detailed discussion of such activities see *Report of Radio Activities at WBOE, 1938-1939* (Cleveland Board of Education, 1939), pp. 38-39.

stimuli are doubly important. It is perhaps an error to speak of visual material as a tool. Any form of visual or auditory presentation should be considered an educational experience in its own right. When radio is used as a means of education, however, it is convenient to think of visual stimuli as an aid to its effectiveness. Visual aids can be regarded as the link between the presentation of the subject over the radio and the pupil.

Sensory aids supply new experiences, new imagery, new associations, and new impressions. They integrate new facts with old experiences and enrich and extend the area of appreciation. Diagrams and charts supply convenient means for summarizing data. Maps aid spatial perception and bring abstract and vague impressions home to the child.

Preparation for a radio broadcast requires much care in the selection and arrangement of visual aid material. Pictures, models, drawings, charts, diagrams, specimens, or exhibits must be assembled for display. Much of this responsibility can be delegated to the pupil himself as a valuable exercise. Fortunately such material is often supplied free of charge by the broadcasting agency.

A few examples may be given of how visual aid materials can be used, but the teacher must depend upon his own imagination and originality. Printed forms or charts can be placed in the school or community newspapers for purposes of publicity for the program and for pupil use during the broadcast as well. Printed questions relative to the broadcast are sometimes given to the pupil. Study outlines are often distributed as preparation for a test to be given to the pupil at the end of each unit.

As places are mentioned during the broadcast, they are located on the map by teacher or pupil. Pictures, products, or models are displayed to the class during the broadcast. Exhibits of products, maps, diagrams, globes, news clippings, instruments, and prints can also be tied in with radio programs.

Often the teacher depends upon lantern slides to provide the visual aid stimuli he needs. Lantern slides are often adaptable to radio lesson techniques. Moreover, they are inexpensive and easily handled. Besides using commercial slides, teachers and pupils may find handmade slides easy to prepare. Program producers try to present programs which can be used either with or without slides.

The audience is severely limited if the program is produced for the specific use of slides, for many groups may not have the material available.

No factor is more effective and successful with a follow-up activity than the use of visual aids. While lantern slides, for instance, may be beneficial during the broadcast itself, their real value rests in their use as the basis of discussion and study after the broadcast is over. There should be a radio and a slide projector for every class receiving the broadcast, especially in teaching so-called drill subjects.

It is inaccurate to describe any subject of the curriculum as a "drill" subject. The adjective is generally used to distinguish the so-called "fundamentals" or "three R's" from the more elusive subjects which teach attitudes, appreciations, and interests. Every subject requires some maintenance procedures, but some subjects require more intense and wise distribution of drill. Such subjects are arithmetic, spelling, reading, and penmanship. This is an arbitrary selection, however, because repetition is necessary for skills in many other learning areas, such as music, athletics, or drawing.

The acquisition of skills, the acquisition of facts, or the reinforcement of past learning requires repetition and use. Space does not allow a full discussion here of the forms of repetition. However, to acquire and keep a skill requires repetition in a large and varied number of situations and settings, repetition that is properly spaced and distributed, and repetition that will take cognizance of individual differences.

Radio cannot meet all these requirements. It can be safely said that radio is not a profitable medium for teaching the so-called drill subjects, because it cannot be so effective as the classroom instructor. It does not consider individual differences, it does not provide the necessary repetition, it does not space repetition easily, and it does not provide the necessary number of varied situations requiring the same facts and skills. Radio can aid, however. Drill has no place in a school curriculum unless it succeeds understanding. After skills and facts have been presented in a meaningful situation and after the pupil appreciates the need for repetition so that he may retain what has been learned, drill can then assume its rightful place in the classroom. Radio can aid the teacher by providing the necessary motivation and interest which must accompany drill.

The writers believe that it is a waste of time and money to offer direct instruction over the radio in the so-called fundamental subjects of reading, writing, and arithmetic. The radio can be of inestimable help, however, in these subjects either by providing the necessary meaning, motivation, or interest or by providing a "master teacher" which the classroom teacher can accept as a model and from whom the best methods can be learned.

Use of Supplementary Aids. What are supplementary aids? Teachers who have mentioned the use of supplementary aids in connection with radio programs have listed materials which can be classified under (1) printed matter, (2) models and concrete objects, and (3) direct audio-visual supplements. Printed material includes books, booklets, manuals, magazines, pamphlets, bulletins, bibliographies, newspapers, outlines, advance copies of talks, and announcements. Under models and concrete objects may be listed magnets, compasses, electric doorbells and materials for experiments, musical instruments, specimens, stuffed animals, and living animals and plants. Direct audio-visual aids include pictures, slides, phonograph records, charts, diagrams, blackboards, bulletin boards, movies, and so on.

The appeal of the radio is essentially auditory. By means of radio the senses of sight, touch, smell, and feeling can be aroused only indirectly. Educational radio broadcasts need supplementary media which appeal directly to the other senses. This supplementary material should be used to aid the teacher in preparing his class for the listening experience and in following up after the broadcast is over.

Most helpful of the aids are the teachers' manuals prepared by the producers of the educational programs. The purpose of the manual is to assist the teacher by suggesting projects for correlated activities for the pupils, books for supplementary reading, and related subject matter. Manuals usually contain specific preparations for the teachers before the broadcast, information about desirable listening conditions, and a list of suggested follow-up activities. The importance of careful consideration of such aids need hardly be pointed out. There is a real danger of providing material which is inadequate or which adds too many burdens to preparation. The manuals which have been prepared by the major producing agencies and by the prominent schools of the air and boards of education are generally con-

sidered of real benefit by the teachers who have used them. Some teachers have noted that these manuals are being improved from year to year.²³

If the manual or any other written supplement is to be valuable it must be distributed sufficiently far in advance of the broadcast to allow time for study. Most producers send out their manuals at the beginning of the school year or before the opening semester. An outline for the work of the whole year can be submitted. More detailed information may be sent to teachers during the year. These bulletins may include specific information about the broadcast lessons, the topics to be covered, materials required, and words, phrases, and sentences which might need emphasis. Outlines of the broadcasts are given for specific subject matter, especially for programs dealing with geography, history, safety, science, and music. Lesson leaflets for the pupils occasionally accompany the manuals. These leaflets may contain pictures, diagrams, charts, and outlines as well as questions for the pupil to answer.

Every effort is being made to assist the teacher to realize the potential values radio offers and to encourage him to introduce broadcast material into the classroom as a supplementary aid to learning. Broadcasting agencies and educational groups alike are organized to offer the teacher sound counsel and the assistance to make his techniques of teaching with radio effective and profitable.

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²³ *Radio in the Classroom*, p. 189.

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Adjusting the Radio Educational Program to the School Curriculum

THE FINAL TASK of curriculum selection rests with the teacher. The air is alive with sound. The owner of a radio has only to turn the dial to obtain practically any type of program.¹ Haphazardly the dial switches from station to station. If the listener finds nothing to his liking he may turn off the switch saying, "Nothing is on right now." An habitual radio user, on the other hand, knows exactly when his favorite serial or dance orchestra is on the air. If the listener chooses his programs systematically he will have a daily radio log to consult for program listings.

The well-informed and up-to-date classroom teacher who has learned to appreciate radio as an aid to teaching will not make haphazard program selections. Available schedules will be studied many weeks ahead. Manuals will have been studied to determine availability and curriculum adaptability. A committee representative of the local schools will take responsibility for selecting and describing the programs, and this material is then passed on to other teachers for consideration.

Regardless of how radio broadcasts are selected for the school, the final selection rests entirely with the teacher. When the final choice has been made, the task has just begun, for the instructor must fit the program to the pupils' needs. Curriculum adjustment involves choice of relevant materials, scheduling, study of sequence of topics, individual adjustment, follow-up techniques, and gathering of countless other data relating to curricula.

Types of Curricular Organization. Because curricula all over the nation are so varied the problem of adjusting radio programs to all of them is almost insoluble.² The general types of curricular organi-

¹ Unfortunately the time and day are deciding factors in program selection. While a wide variety of programs are broadcast they are not available simultaneously. Sometimes the listener is absolutely cut off from the type of broadcast he enjoys because he is unable to listen on the day or at the hour available. Moreover, not all radio listeners have access to a number of stations. As a result, their selection is greatly curtailed.

² For a good discussion on types of curricular organization see Giles, McCutchen,

zation must necessarily be discussed, so that the teacher will realize and appreciate the task of educational radio program production while recognizing the problems and possibilities for radio education in his own school.

It is unusual to find any school system or classroom which follows an exact and clear-cut type of curriculum. It is more common to find variations of a standard type or even a combination of many types. There are, however, three rather clearly defined types of curricula to be found in the nation's schools. One can be designated as the traditional type, often called the classical or planned type, another the emergent curriculum type, and another, which lies somewhere between these two, the social-demands type.

The Traditional Type of Curriculum Organization. Born of the classical school, the traditional curriculum resists change, emphasizes Latin and other foreign languages, and continues to teach formal arithmetic for no other reason than that formal arithmetic has always been taught. It adheres to the transfer of training theory and faculty psychology and stresses mental discipline. Many utilitarian fields, such as home economics, commercial subjects, industrial arts, and the fine arts, have been incorporated as separate entities in this type of curriculum, largely to satisfy the demands of certain taxpayers who otherwise resent change in educational philosophy.

In the traditional curriculum the topic sequence is firmly fixed on what is called a logical basis. The pupil passes subject by subject and grade by grade. There is no place in the traditional curriculum for correlation, fusion, or integration of subject content. In such a curriculum the subject content is the important core of instruction, and the pupil is subordinated to it. The life of the child is planned in detail by adults. This means that the child's experiences in school are often sharply limited. Subject matter outlined in textbooks or in the teacher's daily routine consumes the school day. The daily schedule incorporates careful exercises for facts, skills, and attitudes. This type of organization usually results in a rigid, compartmentalized, and fixed curriculum.

It would be difficult to find a typical radio series to illustrate all these characteristics. For a curriculum organized around subject

and Zechiel, *Adventures in American Education*, II (Harper and Brothers, 1942), pp. 99-101.

areas, however, we can use for illustration the Alameda City School of the Air.³ Some of the negative features of the traditional curriculum have in this instance been eliminated.

The Alameda City School of the Air may be described in the words of its director, Erle A. Kenney:

In general, we adhere to subject classifications. That is, we do not present any program in which units, such as water, transportation, etc., are developed in all their aspects (scientific, historical, geographical, literary, etc.) with a disregard for subject classifications, as would be done in an activity-type classroom. We do not disapprove of such programs, but we believe that they would not fit the needs of as many of our listeners as our present programs do. Neither do we present any general supplementary programs of other types. Our programs are always built up around a school subject, or a closely related group of school subjects, as a core. However, we try to treat the subject broadly. We bring in any related material from other subjects which will add to the clarity and completeness of presentation or to its impressiveness. Thus, in our geography programs, we will refer to the history of the region studied. ("No wonder John Sutter wanted to settle in this fertile valley. . . . Think of how the Death Valley party must have felt when they saw this barren waste before them.") We refer similarly to geography in our history broadcasts. We try always to bring out the relationship between history and geography. . . . Naturally, some of our programs integrate subject fields more than others. For instance, our series on the history of California industries might be used in history, geography, or science, and the same was true of the "David and Susan" series on commercial geography.

While we adhere more or less closely to subject classifications in constructing our programs, this does not mean that we recommend that they be used so in the classroom. On the contrary, we encourage teachers to use our programs with great freedom, disregarding the subject classification. First of all, we try to make every program that we put on the air of such excellence that it may be used as a model for oral speech work, or for narrative, descriptive, or dramatic compositions. Many teachers use our programs in this way, taking a geography, history, or nature study program, for example, as a theme for English work.

The Emergent Curriculum. The type of curriculum organization which probably suits the pupil-needs approach is a modified emergent curriculum. Theoretically, such a curriculum emerges from the inter-

³ Erle A. Kenney, "Alameda City School of the Air," *Local Broadcasts to Schools* (University of Chicago Press, 1939), pp. 189-90.

ests, activities, and felt needs of the learners. Interest on the part of the child is basic. Springing from normal experience, this interest serves as a basis for discussion and investigation in a group project. This is one of its weaknesses. Often the interest of one child is mistaken for the interest of his group. Guided by the interests aroused, teacher and pupil suggest activities; from these arises the need for skills and more information. For example, a class invited to broadcast at a local station might develop an interest in writing, spelling, the study of the history of the community, or consideration of the means of transportation used in going to the studio.

The theory supporting the emergent curriculum is that learning must be functional as an actual part of the child's life. A teacher guided by this theory is not concerned with specific learning during the project, because what is missed can be acquired later as the need arises. Boundaries between subjects in such a curriculum overlap; there are no isolated subjects. One project alone can include history, geography, health, language, music, or arithmetic.

The Social-Demands Curriculum. In this curriculum the objectives are to teach the patterns of adult society. Teaching units analyze and emphasize the fundamental phases of modern living. The adult uses of arithmetic, for instance, determine what should be taught to the child. Inasmuch as adult society is constantly changing, the curriculum planning must be continuous, and the sequence of learning can never be set. The advocates of such a curriculum maintain that there are certain common essentials, ideals, specific skills, facts, concepts, and specific conventions of communication and expression necessary to any given culture, and that it is part of the business of the teacher to inculcate these things in his students. A combination of the social-demands curriculum and the emergent curriculum may be found in what may be called the pupil-needs curriculum. The scope of this type of curriculum is determined by both pupil and adult life. The important elements of life are analyzed and segregated from the unimportant. Each phase of the curriculum must be pertinent to the immediate life of the pupil. There are no fixed themes or units allotted in chronological sequence to specific grade levels. The themes used at each grade level are determined by the needs of a given group of pupils. What the exact activity, subject-matter content, or outcome may be cannot accurately be predicted.

Newer Curriculum Trends. The newer curriculum practices are organized around broad units of study, experiences, problems, or projects which cut across conventional subject-matter divisions. Pupil attention is based on social experiences which require comprehensive study of subjects such as housing, transportation, or conservation. A single textbook is not sufficient for the units; magazines, pamphlets, newspapers, or individuals must also be consulted. Excursions are taken to various places so that many events and industries can be observed firsthand. The radio is used to bridge space and to penetrate the limits of schoolroom and community. It can take pupils on excursions into places and to industries which they may never actually visit. Radio can take children on a tour of a coal mine, into a scientist's laboratory, or on an ocean voyage. Because the effects and implications of a single broadcast can be so diverse, so stimulating, and so complex, radio is readily adaptable to more comprehensive projects. The unit illustrated in later pages of this chapter is an example of this type of curriculum.

General Types of Curricular Organization. Characteristics of all forms of curricular organization are present in most school systems. An emergent curriculum is seldom found in well-defined form. Some type of planning is advocated by nearly every teacher of children, and few teachers fail to recognize that there are some specific concepts, facts, skills, and conventions which must be learned by everyone and that these must be carefully selected and organized.

It can be generally said that in our present school system most of the activities and projects developed from child interests are found in the kindergarten and first and second grades. A gradual division of the curriculum into separate subjects with definite periods begins in the third, fourth, and fifth grades. Many activities and projects can be found there too, of course, but these are likely to be activities designed to teach one subject rather than to correlate many. In the sixth, seventh, and eighth grades it is common to find the curriculum divided into definite subject areas with separate textbooks serving as a basis of study and discussion.

There are examples of the project method of teaching in all types of curricular organization. The main purpose of some forms of co-operative group projects is to discover the individual's special aptitudes or interests by giving each child a chance for self-expression

and helping each child, as a group member, to work, think, and play cooperatively. Such activities concern themselves with the individual and social development of the child. This type is identified with the emergent curriculum.

In another type of project the activities of the group are deliberately planned by the teacher in order to help children realize a need for further study. Without help from the teacher the child may not find this sufficient stimulus to learning. In such a project the stage is carefully set, the activities and subject matter are minutely planned, and the child is meticulously guided in every thought and activity. This type of project is most likely to be found in the traditional type of instruction curriculum.

National broadcasting companies and local stations naturally find it difficult to plan educational programs when there is so much disagreement among educators regarding curricular organization. Social studies teachers, for instance, maintain that geography is part of social studies, while other teachers still teach it as a separate subject. Some science teachers feel that science in the elementary schools should consist of nature study, while others feel that nature study is only a small part of the science course. Early broadcasts attempted to arrange the lessons to coincide with various school subjects, but the current trend is to interrelate subjects. For instance, a music series can be arranged in a program of folk music which dovetails with social studies.

Obviously, in an activity curriculum where all subjects grow out of a central core, and where incidental learning is integrated in the central project, the problem of adjusting a radio broadcast to the curriculum is simple. Because routine and isolated study of subjects is minimized, any selected radio broadcast can be used at any time, providing it is related to the unit of activity in progress and of benefit to the pupil. Because no subject is scheduled for a definite time of the day it will make little difference at what hour the broadcast is available.

The adjustment of radio programs to "subject activities" is more difficult. Because a daily routine is followed in teaching separate subjects, either the routine must be disrupted or a program must come at the exact time the subject is taught.

To summarize, we find three classroom practices: a central unit

or project serving as motivation in teaching all subjects; an activity or project organized within a subject; and a textbook system, where subjects are isolated and taught according to definite schedules. In schools where a traditional subject-area curriculum is in force, radio broadcasts are used only for the subjects which they represent. Schools whose organization permits correlation of subject matter find it possible to correlate the various radio programs with several subject areas. When the integrated subject-matter plan is followed, the subject-matter listing of radio programs can be discarded and the broadcasts need only meet pupils' interests and needs.

Use of Radio in the Unit Plan of Teaching. Many definitions have been given of the "unit plan." The term can be used to apply to almost every and any type of teaching found in our schools. Some teachers, for instance, may call a chapter of a book a unit of work. Others may call an assignment of any kind a unit of work. Many teachers incorporate units within traditional school subjects — for example, a unit of fractions in an arithmetic syllabus.

As we consider further the various types of curricular organization, emphasis will be on the unit. Recent trends in broadcasting are making radio presentations complete in themselves. The teacher may use such programs with any relevant subject as he wishes. Nor need he limit the uses of the program to any one subject. In other words, radio should be a flexible tool to supplement the instruction of the teacher.

Two Types of Units Related to Radio Education. Units of work as related to radio have been of two kinds. First, there is the unit where the radio is the focus of attention. Subjects are introduced simply to illustrate significant concepts. Second, the unit of work itself may be the focus of attention, with radio used only as an aid in obtaining recognized educational objectives.

The first type can be illustrated by the use made of radio by a fourth-grade teacher in California who correlated a broadcast geography lesson with other school subjects. In this program the broadcast told the story of a grandmother and her two grandchildren on a trailer trip through California. This fourth grade drew a large map of California and placed on it the mountains and the most important rivers and lakes. Correlation with arithmetic occurred when each county was carefully measured during the arithmetic period and

placed according to a scale on the map. The best drawings were selected by the class and drawn upon the large map. A radio program thus provided common ground for four different subjects: geography, arithmetic, drawing, and history.

The following illustration of a unit where the radio program was the focus of attention can be cited. R. Dean Conrad⁴ described his visit to a classroom when radio was being used. He was observing a class whose lesson was concerned with the buckeye tree. A radio program about this tree was designed specifically for the intermediate grades. After the broadcast the children engaged in a lively discussion. Who had seen a buckeye tree? Where is the nearest one? How many are there in the city? Where do they grow? What is the difference between a buckeye and a horse-chestnut tree? Of what use were buckeye trees to the pioneer settlers? Within ten minutes a boy had located a buckeye tree a short distance from school and was off to make arrangements for the class to visit it. The following morning Mr. Conrad received a letter from the class telling him where other buckeye trees were and how he could see them, and saying that the children had been given a small buckeye tree to plant at school on Arbor Day.

One of radio's major values is its use in supplementing other units of work. In this case the unit of work is the center of interest and radio is used to help realize the objectives. A unit of work on the history of California, for instance, might have benefited from using the California history series broadcast by the Alameda City School of the Air.⁵ This program inspired pupils to interview pioneers, investigate local historical landmarks, read old diaries and letters, and seek material of every kind. From these activities there grew an activity in art which included photography and sketch drawing. The program also led to a study of current civic problems and oral and written composition.

Teachers have often found it valuable to include in the curriculum a unit of work on radio appreciation. It is dangerous to attempt too many such units. Before the teacher includes a project on radio in his plans he should investigate carefully to see if the pupils have been exposed to similar units with previous teachers. He may find a possible lack of interest and enthusiasm. Another danger is in making the

⁴ R. Dean Conrad, "The Ohio School of the Air," *Education on the Air* (1931), p. 169. This reference is old, but it illustrates well a type of unit still found in many schools.

⁵ This unit is described by Erle A. Kenney in *Local Broadcasts to Schools*, p. 188.

radio the center of classroom activity. This not only gives undue emphasis to radio's importance but is also likely to turn a serviceable aid into a fad.

Many excellent units on radio appreciation are available in professional educational literature. The following unit is presented here not with the idea that it be followed in detail, but with the hope that it will offer suggestions which can be adapted to local conditions.⁶

A TYPICAL RADIO APPRECIATION UNIT OUTLINE

English via the Air Waves

In general, radio can be used to further the larger objectives of education because it furnishes information, interests, motives, and experiences that other educational media such as books, newspapers, magazines, the theater, and travel supply. Specifically, it can be used to acquire certain desirable "listening experiences" natural to the English classroom.

The following suggestions are for the utilization of commercial programs, not for the programs of the various schools of the air. The nature of these activities is chiefly listening, followed by discussion or critical writing except when they result in stimulation to some reading or creative expression.

I. Experiences in Exploring the Social World

Securing information — discovering new interests

A. Exploring the air waves

The amount and variety of information to be derived from listening in. Any misinformation?

Discovering "the public mind" by sampling speeches, music, variety programs.

General kinds of radio programs. To what tastes do they appeal? At what hours and stations are they most common? Their essential differences. They might be ranked in order of interest to the individual.

Famous personalities on the air — artists, announcers, speakers.

Radio as an aid to study — school subjects which can be built up through specific information, interpretations or opinions, and enjoyment received from radio programs.

⁶ Bernice Orndorff, "English via the Air Waves," *English Journal*, XXVIII (October, 1939), pp. 619-28. This article is not quoted in its entirety, but the sequence and meaning are retained.

B. Visit to a radio studio

Studio equipment.

Interviews with announcers, studio managers, technicians, script authors.

Sound devices and effects.

Sound devices

Electric transcriptions — values and purposes

Scripts

Government regulations of broadcasting.

II. Experiences in Learning to Think Critically — to Be Discriminating

A. What's what in radio programs

Discovering the appeals of a dozen of the more popular programs.

Formulation of standards for various types of programs.

Tentative scale for one or more kinds of programs.

"Best" series of programs on the air. What programs have stayed on the air longest? List ten best at the beginning of the year and again at the end to see if tastes have changed.

Rating sheets.

Analysis of radio speeches.

Reports of home listening — evaluation in terms of time consumed, quality of programs, types of programs.

Listeners' survey of school neighborhood.

Value of foreign programs.

B. How to listen

Evaluate own listening habits and techniques.

C. What may I believe?

Advertising, publicity, propaganda. Role of the sponsor.

Government regulation — other countries.

Analysis of news commentaries, political speeches, etc.

D. Programs for children

Should children be permitted to listen to all programs?

Standards for judging children's programs.

Are there possibilities for character training through listening?

Effectiveness of direct narration in children's stories — other techniques.

E. Radio English

Diction on the air — judging speakers in terms of use of voice, choice of words, ability in practical discussion.

Qualities of various announcers.

Is radio leveling out sectional differences in speech?

Is radio replacing the platform for oratory? Advantages and disadvantages to the speaker.

Is radio a good influence on speech?

F. A radio guild

Class, club, or community to study problems of evaluation and taste and to develop discrimination through participation.

Plan for an ideal series of radio programs for an imaginary station.

III. Experiences in Getting Acquainted with Literary Materials and Facts

A. Treatment of classics on the air

Differences between a radio play and stage drama — tempo, selection of episodes, background effects, characterization. Which maintains better literary values? What are the dramatic values of each?

Compare a radio version and the movie version of a play or novel.

How are other forms of literature handled?

Radio as a medium for poetry — how frequently presented. In what forms? In what form of setting — by poet himself, read, dramatized, chanted, verse-speaking choir? Possibility for materials not yet used.

B. Radio log or diary

Plays heard.

Literary personages — “Authors I Have Heard.”

Literary information.

C. Comedians of the ether

A proper sense of humor — a *proper* sense of humor is important to both literary sophistication and to enjoyment of life. Too little good humor is fed to our youth and too little done to raise the level of their taste. One way to cultivate a distaste for the trite or vulgar is to lay it on the table for dissection.

Personalities of comedians, their gags, their stooges, how their programs are built up, how the studio audience is used to enhance the effect.

Study of the comedy programs — type, length, variety, number of participants.

IV. Experiences in Enjoying and Appreciating Literary Values — Personalities of Artists

A. Analysis of radio personalities

Artists, announcers, speakers. What quality or qualities attract the public?

B. Comparison of well-known drama broadcasts

Probability of plot.

Consistency of character.

Naturalness of dialogue.

C. Radio as a medium for fantasy

Does it have any advantage over the movie?

D. Possibilities for poetry

E. Dramatic criticism

Study of radio scripts — difference from script of stage play.

F. "Fine style" on the radio

Difference between hearing on the air and seeing a character on the stage as he speaks.

Is there a disadvantage in not being able to turn back as in a book?

Programs that seem outstanding because of character of the script rather than the excellence of the performers.

Evaluation of the words of songs popular on the air.

V. Stimulation to Activity — Creative Expression

A. Reference reading

Suggested by news items or commentaries heard.

Following radio appearance of an author. This can become the starting point for reading in literary or subject-matter fields for further information about new subjects heard over the radio. The direction of a pupil's reading can be influenced by having attention called to broadcasts on specified subjects for further information or to follow a newly awakened interest.

Spontaneous reading of literature after or before heard on the air. These reading activities may stimulate a whole class to

pursue a certain line of reading or furnish individuals with new directions.

B. Reports, discussions, round tables

Following broadcasts — may deal with content or standards for programs.

Report of representatives listening to certain programs — information or evaluation.

Following visit to a broadcasting system.

C. Radio log or diary

Semester history of listening, with critical comments.

D. Radio guilds

For study of radio problems or amateur production see VI.

E. Clippings

Classified — evaluated.

F. Classroom dramatization

Imitating dramatic broadcasts for motivation and application.

Adapting literary episodes or free writing of drama. Problems of copyright with selected or adapted plays or readings.

G. Who's who in radio

Assembling of material about radio personalities.

H. Radio review column in school paper or bulletin

Interviews or comments gathered from students.

Reviews.

I. Class radio magazine

News — reviews — original scripts.

There is no magazine of this kind. It would be an interesting field in which to pioneer.

J. Physics of radio equipment

Enough information about the principle of radio for an intelligent appreciation.

Homemade equipment.

K. In-school broadcasting

P.A. (public address) system or homemade setup.

School news broadcasting.

Interviewing.

Assembly programs.

L. Recording

Of some assembly or other program to preserve the program
and for appreciation of the techniques of recording.

M. Contests in radio writing

To be produced.

N. Dictionary of radio terms

Vocabulary of useful critical terms.

Radio jargon.

Technical terms.

O. Compiling a radio guide (mimeo or bulletin board)

Programs, interesting or related to schoolwork, or timely.

Advance notices of special broadcasts.

P. New words

Record of additions to vocabulary from radio listening and
activities.

VI. Social Behavior — Sharing Information or Equipment with Others.
Taking Responsibility

A. Home listening

How to cope with the problem of varying program tastes of
different members of the family.

Radio manners.

Conversation during somebody's favorite program

Radio during calls

Radio during study or reading by others

Relation of radio to leisure time.

B. Possibilities of radio for vocational guidance

Round tables on school issues.

Safety talks to lower grades.

Town hall (school). In-school broadcasting staff.

Stock company, news travelogue, episodes from history and
science.

C. Sharing programs — public address system

Verse-speaking choir.

A play for other classes or grades.

School news bulletins.

Assembly programs.

Individual pupil report of worth-while activity.
Radio drama workshop.
Report of club activity.
Sample class and activity programs.

VII. Learning New Skills and Techniques

A. Diction on the air

Comparison of speakers and announcers as to quality of diction.
Recording of pupil voices.
Use of public-address system or homemade set to test and study voices.

B. Taking notes

From speeches, news items, and programs for later reporting or discussions in class.

C. Filing notes

For future reference.
Filing articles from newspapers or magazines pertaining to some radio activity.

D. Interviews

During visit to studio with script authors, artists, studio managers, etc., written for school paper or class bulletin.

E. Reports

Of listening.
Of new books or articles dealing with radio.

F. Reviews and critiques

Selected programs or series for school paper or bulletin.

G. Student scripts

Dramatic.
Original. To present a school activity.
Scripts for station broadcasts should be written by experienced writers unless the purpose is to exploit a school production.

H. Editorials for school paper

Relation of radio to study.
Social behavior and the radio.
Value of broadcasting.
Any of the evaluation problems.

I. Dictionary of radio terms

Vocabulary of useful critical terms.

J. News writing

Items of school interest for the school broadcast.

K. Tests and quizzes for in-school broadcasting.

L. Summaries

Radio talks heard.

Discussions.

M. Letter writing

Intelligent fan mail.

Constructive criticism to stations.

To Federal Communications Commission.

To script exchanges.

A Typical Unit Organization Plan Using Radio. The ways of organizing units vary almost as much as the units themselves. However, the following divisions may be considered typical: (a) determining objectives, (b) selecting materials of instruction, (c) determining subject matter, (d) launching the unit, (e) choosing activities, (f) planning the culmination of the unit, and (g) evaluation.

The objectives usually include the general aims of education. Often these are not stated but taken for granted. The objective of any unit includes the indoctrination of specialized educational subject matter as well as the specific advantages in using radio. The listing of a few statements of objectives will illustrate the general practice.⁷

1. To show what aspects of the course (subject) correlate with the offerings of radio.
2. To stimulate work in the subject field by considering it in connection with broadcasting.
3. To broaden and enrich the world in which the student lives by proper use of radio.
4. To teach the student to formulate his own standards for radio programs.

⁷ For statement of objectives see Alice P. Sterner, *A Course of Study in Radio Appreciation* (Film and Radio Guides, 1941). Also, Arthur Stenius, "Radio Units and Courses in High School, *Educational Method*, XVIII (January, 1939), pp. 171-76.

5. To provide vital occasions for the practice of discussion, composition, letter-writing, reading.
6. To emphasize the part played by news broadcasts in national life.

Radio programs have often been used to initiate a unit of work. We can take as an example "The Chicago Land Program," a series describing the history and government of Chicago. After the broadcast, the pupils were interested in enlarging their study. Although the program was directed toward the enrichment of the social studies, its ramifications were many. In the English class the children dramatized some of the stories they had heard. In a workshop they built and lighted a good-sized stage and constructed marionettes to use in a production of their script. They were enthusiastic about presenting their play as an assembly program for their parents and the rest of the school.⁸

The activities which may result from the use of radio in the unit of work are many. Besides those activities mentioned in previous pages, other possible activities may be mentioned here again for illustration:

1. When any state, city, river, mountain, or landmark is mentioned in the broadcast have pupils locate it on a map.
2. Make a booklet showing pictures or newspaper clippings about topics mentioned in the broadcast.
3. Make slides.
4. Relate stories similar to those suggested by the broadcast.
5. Take excursions to a museum.

Various activities which grew out of radio news broadcasts and which can be adapted to upper-grade classes are:⁹

1. Compare radio news and the opinions of commentators with newspaper reports.
2. Answer questions: What are the sources of news? Appoint committees for further study.
3. Discuss news vs. propaganda.
4. Plan and perform a radio play dealing with propaganda.

⁸ Harold Kent and others, "Utilization of School Broadcasts," *Education on the Air* (Ohio State University, 1939), pp. 280-81.

⁹ Elizabeth Goudy, "Pupil Broadcasts as Motivation," *Clearing House*, XIII (February, 1939), pp. 349-51.

The culmination of a unit of work has often taken the form of a broadcast presented in a station, over a loud-speaker system, or a mock broadcast. Sometimes the unit inspires an excursion to a broadcasting studio, an exhibit of creative work, or pupil participation in music festivals or dramatic productions.

Evaluating Progress Made in a Unit of Work. The importance of continuous evaluation cannot be overemphasized in relation to the development and accomplishment of a unit of work. No rules can be given as to when and how evaluations are to be made, but according to current practice they are generally made soon after the radio broadcast. When, how, and by whom the evaluations are to be made depends entirely upon the purpose. If an evaluation is to be made by parents of the merit of a radio appreciation unit the following type of evidence¹⁰ might be used:

1. Were school standards of radio appreciation raised as a result of the children learning what constitutes a good program?
2. Has the unit helped provide new experiences upon which the pupils may draw to enrich their leisure time?
3. Did the pupils develop interest in good speech habits? Pitch, rate, and quality?
4. Were the children's interests and experiences widened because of hearing a variety of prominent people in various fields of endeavor?
5. Were there any gains in poise and confidence?

If the evaluation is to be made by the teacher the following questions may be asked:

1. Was the program content adapted to the social and mental age of the pupil?
2. Did it contribute to the interests and needs of the pupil?
3. Were the content and production of the program adequate?
4. Did it serve as effective supplementary material?

Perhaps the teacher will wish to ascertain the effectiveness of a radio program in teaching his pupils facts on a specific topic. To do this he might use a brief written test. The results of the test might indicate need for further development of the unit of work or the

¹⁰ The authors formulated these questions as a result of reading the article by Mildred B. Flagg, "My Daughter Nancy at the Microphone," *Clearing House*, X (March, 1936), pp. 387-89.

importance of directing the pupils to another phase of activity. Here is an excellent example¹¹ of a sample test given to pupils after a broadcast on the "Pony Express":

To answer the questions on the broadcast of the "Pony Express," we are going to play a game. The work will be written out but we will leave blank spaces and we want you to fill in the spaces with the words that you think should go into the space.

Before the 'Pony Express' there was the ——— in May 1851 that began in the roaring mining camp of ———, and was to take the mail through Carson Valley, then over the Sierras to ———. They were very much afraid that the ——— Indians would molest them. In winter of 1859, William Russell met Senator ——— of California, and from this conversation was born the ———. The first mail was carried out of San Francisco by ——— on April 3, 1860. The Indians were against the whites because they took their ———. The famous ride of ——— covered a distance of three hundred and eighty miles, with but nine hours' sleep. The rate for a half ounce of mail by the 'Pony Express' was ——— dollars. Letters were written or printed on the thinnest ——— and wrapped in ——— for protection. With the completion of the ———, the 'Pony Express' was doomed.

The importance of objectives was emphasized in a previous chapter, but at this point the topic should be considered once more. The teacher can better decide what program to use or how to use a program if he will formulate his own statement of purposes to serve as criteria. He must always think of radio as it contributes to over-all results. General objectives are not limited to any particular subject or to any particular grade. Although he should judge selected programs by exacting standards, he should not demand rigid adherence to subject and grade divisions. He should take advantage of many of the worth-while supplementary materials offered by the newspapers, magazines, movies, phonographs, and radio. He should always recognize that radio contributes mainly to the general objectives of education rather than to the strict requirements for each grade and subject area.

¹¹ "California History Program," Alameda, California, *School Radio Scripts*, edited by Blanche Young (Indianapolis, Indiana, 1939), p. 1.

Many teachers think that unless a radio broadcast fits directly into their present unit of instruction the program cannot be used. This is largely because the teacher is accustomed to having lessons ready-made for him by courses of study or in textbooks. Learning by listening, like learning by reading and discussion, requires additional specialized effort on the part of the teacher. Some parts of the program may not apply to immediate needs, being either too advanced or unrelated to immediate problems. The teacher must concentrate on those aspects relevant to the needs of the class.

The program may be used to supply informational background, to present controversial or contrasting viewpoints, to dramatize historical events and personalities, or to develop the pupil's ability to understand and appreciate the world about him. Some teachers have found radio programs useful in stimulating critical thinking, in improving speech, in supplying correct foreign language pronunciation, and in bringing famous and important personalities into the classroom.

In general, a program may be selected to contribute to the school curriculum in at least one of these ways:

1. A program may contribute to activities and studies already in progress in the classroom.
2. A program may stimulate new interests which can lead to desirable new activities.
3. A program may serve as a source of material for practice or drill in fundamental processes.
4. A program may offer recreation and refreshment.¹²

A radio program must contain certain elements which enable the teacher to adjust it to the curriculum. The technique and form of presentation are beyond the control of the classroom teacher. He can control other elements of the broadcasts to a certain extent by preparing the class adequately for listening or by using a follow-up procedure after the broadcast. The teacher should not depend on the radio to do all the instructing. The teacher will always be indispensable regardless of how efficiently the radio program is produced and administered. Provision must always be made for individual differences. Correction of errors, assistance with difficulties, and

¹² For an interesting discussion of these points, see Margaret Harrison, *Radio in the Classroom* (Prentice-Hall, 1937), pp. 47-56.

adjustments to pupil needs are all a necessary part of the teaching situation. It is the classroom teacher who assumes these responsibilities and who points the way to the realization of educational objectives and the integration of the multiple experience of living and learning.

The Teachers' Manuals. Teachers' manuals are designed to accompany regular educational programs. These manuals usually give the time of broadcast, explain the educational objectives of the program, list reference books and supplementary materials which may be used with the program, and offer definite suggestions on what to do before, during, and after the broadcast. Many excellent manuals are available. Extracts from three typical manuals are given below for illustration.

EXAMPLE NO. 1

*The Friendly Dragon*¹³

One of the earth's most marvelous and maligned creatures is the dragonfly. It is given names like "snake-feeder," "flying adder," "horse-stinger," and "devil's darning needle." It is said to sew up the mouths of those who tell fibs and the ears of those who listen.

Actually, dragonflies are among our best friends, and children should know about them and enjoy them. They have a never-ending appetite, and the way they pick insects from the air is a feat of amazing speed: now you see an insect . . . along comes a dragonfly . . . now you don't! Two gifts — eyes with remarkable vision, wings of great swiftness. Let's listen for more about our "friendly dragon."

We Make Ready (Before the broadcast)

1. Can some Trailhitter bring a dragonfly to school for observation? If the teacher has a poison bottle, mount the specimen for observation. If not, place it under a tumbler.
2. Note the size of the dragonfly's eyes. Why need they be so large? Does it have any use for antennae?
3. Note how big and strong the thorax is. Why does the dragonfly need a thorax so well-developed?
4. Note the wings. How are they made strong? The front of the wings is folded. Does this give strength to the wings?
5. Most boys and girls have watched dragonflies. Have them relate these observations and experiences.

¹³ Wakelin McNeel, *Afield with Ranger Mac, Manual for Teachers*, 1944-1945 (Wisconsin School of the Air, 1944), p. 33.

We're Up and Away! Listen for these ideas:

1. What kind of creature is the dragonfly? Follow Ranger Mac as he points out the stages in its life history. What is a nymph? If you wanted to get some nymphs for your aquarium, where would you look for them? What would you use to get them?

2. Why is the nymph such an interesting creature? What about its fierceness? Where would you look for the last molted skin of a nymph? As a nymph, is the dragonfly beneficial?

3. Note how well-equipped the dragonfly is for catching its prey. What was said about its appetite?

4. What is the difference between dragonflies and damsel flies?

We Want to Learn More (After the broadcast)

1. For your museum, mount a specimen of nymph and adult dragonfly.

2. When the time arrives, be sure to visit a pond or sluggish stream and watch the actions of dragonflies. What happens when clouds cover the sun? How do insects hold their wings when resting? What are they doing when they dip down to touch the water?

3. What are the enemies of the dragonfly?

4. You'll find stories about dragonflies in these books:

The Underwater Zoo — McClintock

Holiday Pond — Patch ("Blue Damsel-Flies")

Pond Book — Porter and Hansen

Insects and Their Ways — Parker (10-11, 34)

Some Animal Neighbors — Phillips and Wright ("Filmy-Winged Insects")

A-Hiking We Will Go — Van Coevering (pp. 132-36)

Along Nature's Trails — Athley

How and Why Discoveries — Frasier

Insect Ways — C. M. Weed (pp. 52-63)

EXAMPLE NO. 2

*Switzerland, Center of Peace*¹⁴

I. Purpose of the Broadcast:

A. To supplement the work on the unit about Switzerland which is studied in the fourth grade.

B. To tell the pupils about the patriotism of William Tell.

¹⁴ This script was printed with the permission of the Texas State Department of Education, Audio-Visual Education Division, Austin, Texas. It was part of the *Open Your Eyes* program, November 30, 1944. The program was also broadcast successfully by the Department of Public Schools, Providence, Rhode Island.

II. *Suggestions for Preparation:*

- A. Have the pupils tell their classmates what they know about Switzerland and its inhabitants.
- B. Display pictures of Switzerland and discuss their meaning with the pupils.
- C. Play the following victrola records:
 1. William Tell Overture (Rossini) — Victor records, No. 20606 and No. 20607.
 2. National Hymn (same air as "America") — Victor record, No. 20635.
 3. Swiss Song — Victor record, No. 24241.
 4. 's Lercherl (Yodel) — Victor record, No. V-6009.
- D. Have the pupils locate Switzerland on a map of the world and on a map of Europe.
- E. Have them locate the following places in Switzerland:
 1. Bernese Oberland.
 2. Jura Mountains.
 3. Lake Lucerne.
 4. Canton of Schwyz.
 5. Canton of Uri.
 6. Canton of Unterwalden.
- F. During the broadcast have a large map of the world on display and point to the places which are mentioned.
- G. Explain to the class the meaning of the following:
 1. An interior, landlocked republic.
 2. A buffer nation between powerful nations.
 3. Glaciers and threatening avalanches.
 4. Building bridges and viaducts.
 5. In the remote cantons or districts.
 6. The tyrannical Austrians gained control.
 7. Sent his bailiff or governor.
 8. A cruel tyrant.
 9. Must doff their caps as a sign of submission.
 10. Charlemagne, the mighty ruler of the Franks.

III. *Program:*

- A. Dramatization: "Switzerland, Center of Peace."

IV. *Follow-Up:*

- A. Discuss the new information which was obtained from the broadcast.
- B. Dramatize the scenes in the play which told about William Tell.

EXAMPLE NO. 3

*Music Is Yours*¹⁵*Suggestions to Teachers*

We are not attempting to build a curriculum through the broadcasts and the manual materials which supplement them. The teacher must not expect these radio programs to fit directly into the established curriculum. No series of programs could be prepared to do so.

The utilization activities given in the manual are merely suggestive. The particular type or amount of preparatory or follow-up activities cannot be standardized for use in all situations. The teacher and students must decide which procedures best fit the needs, interests, and capabilities of the individual classroom.

Teachers who are experienced in the use of radio in the classroom are agreed that preparation for the broadcast and follow-up activities make the listening period a more meaningful experience.

The following suggestions may prove helpful as a guide:

Preparation before the Broadcast

1. This period should be quickly and efficiently accomplished. The main purpose is to put the student in a receptive attitude.
2. Make any adjustments that will make listening more pleasant, such as lighting, ventilation, putting away excess papers, books, etc.
3. Have all pupils seated so that they can hear clearly. Facing the radio is more natural.
4. All supplementary material should be collected and on hand.
5. Engage in preparatory activities: read and discuss introductory materials; examine illustrative and explanatory materials. The teacher should be familiar with manual materials and have tentative utilization activities planned.
6. Test radio; regulate clarity and loudness in relation to most distant point in the room from the radio.
7. Sometimes a definite thing to listen for tends to challenge the interest and imagination of the students.

¹⁵ *Teachers' Manual and Classroom Guide for "Music Is Yours,"* 1945-1946 (Austin, Texas: State Department of Education), pp. 9-10.

Listening to the Broadcast

1. Best results will be secured if there is a radio in each classroom. A natural situation is preferred to auditorium listening.

2. The students should be comfortable, relaxed, orderly, and free to become fully absorbed in the program.

3. Eliminate as many distractions as possible, within and outside the classroom.

4. The teacher should listen as a member of the audience. His attentiveness is one of the best assurances that the students will listen attentively.

5. Required note taking is generally undesirable. Sometimes it is profitable for the teacher to take a few notes in order to better guide the discussion following the broadcast.

Following the Program

1. The purpose of this period is to increase the value of the broadcast by encouraging the students to react to it in terms of their own interests and capacities.

2. The skill of the teacher in using the broadcast is as important as the broadcast itself. The success of this period depends upon the ingenuity of the teacher to bring out the aspects of student experience which make the broadcast important and significant.

3. Most programs stimulate discussion and spontaneous reactions. Neither a question and answer check-up nor a minute review of the broadcast is generally desirable.

4. Integration with classroom activities makes the program become more a part of students' experience and thinking.

5. The broadcast should act as a "springboard" for many worth-while follow-up activities that sometimes carry over several days.

Regional and National Programs. Regional or local programs are more often representative of local student interests than are national programs. Many local agencies outside the school influence child development. Among these are the home, playground, the church, the Scouts, 4-H clubs, the YMCA, and the YWCA. The school, which can influence the child only for a relatively short time each day, serves as coordinator between home and community. Therefore critical examination of the schools by the community should be welcomed. The community must understand the purposes of the school if it is to exercise intelligently its duty of criticism. It is in this school-community relationship that a local station can render special

services with which a national network cannot compete. Local radio programs can consider community transportation, community health, and community housing. The local radio program can be concerned with local school policy, pupil activity, and school needs. Thus the series, "Adventures in Our Town," part of the Wisconsin School of the Air for 1946-1947, considers general problems of community life while it draws upon the children's knowledge of local conditions.¹⁶

Local or regional stations are able to broadcast educational radio programs which interlock with local school curricula. This is especially true when the educational broadcast is a cooperative enterprise, involving the effort of several agencies, as in the case of those programs produced under the direction of the Rocky Mountain Radio Council or of the Texas School of the Air.

In Cleveland and in Rochester, New York, school broadcasts are planned by supervisors and teachers responsible for experimental development of the curriculum. In most cases teachers themselves fill the role of broadcasters. When such close connection exists between the schools and a local system, multiple-purpose broadcasts are possible. In some cases the radio has been used for actual subject instruction. Facilities of the larger producing units of the national networks, however, make available a wider variety and more elaborate types of program than the local station. We refer to symphonies, on-the-spot world-wide newscasts and documentary programs, radio visits to famous historical localities, or presentation of actual personalities who have achieved eminence in areas of human endeavor.

Educational Administration in Relation to Curriculum Adjustment. Special problems of curriculum adjustment face the program producer as distinguished from those that face the classroom teacher: Should programs be given every day of the week? Once a week? Once every two weeks? In other words, should a radio educational series be offered in a concentrated form or distributed over a period of time? Should the programs be given in graded sequence? In series of equal difficulty? In series of related topics? In separate programs complete in themselves? If particular lessons in any one subject for a specific grade are not repeated will all pupils have the opportunity of hearing them?

¹⁶ *Teacher's Manual for "Adventures in Our Town"* (Wisconsin School of the Air, 1946).

These questions cannot be authoritatively answered at this stage of the development of radio education. The answers which have been given by classroom teachers and theorists who have used radio have been governed by personal opinion and individual circumstance rather than by experimental evidence.

A wide range of opinions exists on the question of how old a child must be to benefit from radio in school, but at present experimentation and research on the subject have not gone far. If we use the opinion of parents we can approximate the ages at which children are most and least interested in radio. A poll of the opinion of eighty women¹⁷ indicated that interest in radio begins at four and five years. Certainly by the time the child goes to school his enthusiasm for radio is well established, and the interest continues unabated well into adolescence. Of course, we cannot assume that "interest in" means "benefit from," but the resourceful teacher should recognize his pupils' fondness for radio as a basis for meaningful instruction and profit.

Often a program is suited for several grades. It probably is more practical and more advisable for a program to be produced for several grades rather than for one grade. A musical program, for instance, can be designed for the kindergarten and the first and second grades far more effectively than for the kindergarten alone. The wider range of content will compensate for the children's varied interests and abilities.

When Wisconsin school supervisors were asked their opinion of how many grades should listen in to a broadcast, the urban supervisors favored a range of two grades, while rural supervisors favored four.¹⁸ Programs intended for three or four grades present a number of problems. Lessons must be simple enough for the lowest grade and yet advanced enough to hold the attention of the older pupils. If programs dealing with the same subject are given in successive years, they must either provide for a continuous development of concepts or embrace a variety of topics. The best solution would be to offer a series designed for four grades, so that a class listening continuously for the four-year period would receive an extensive, well-integrated treatment of the subject. This means that careful

¹⁷ "Radio for Children. Parents Listen In," *Child Study*, X (April, 1933), pp. 193-96

¹⁸ *Radio in the Classroom* (University of Wisconsin Press, 1942), p. 187.

planning of the subject matter of the series is required so that a class may start listening at the beginning of any year in the sequence.

Choosing Subject Matter for the Educational Radio Curriculum. How can the national programs serve the local schools? The question often arises whether selected subject matter for a radio program should be of a local or national character. Regardless of the care in their production, radio educational offerings are likely to be more adaptable to some localities of the United States than to others. The local teacher must always accept the responsibility of relating any program to the immediate classroom assignment. The manuals and pamphlets supplied by the broadcasting stations are valuable for teacher use, but the teacher should consider them only as offering suggestions. Without adaptation of the material to individual and local needs we would have the vicious situation of one central authority dictating the course of study for large areas of our country.

How do the schools of the air choose their curricula? Standards of judgment are based on the criteria given by teachers for whom the programs are designed, the maturity of the pupils who will hear the broadcasts, and the adaptability of the material to several uses. Almost every type of subject has been requested, but the subjects teachers seem to favor, or at least the subject areas where they feel they need assistance, are as follows: music appreciation, geography and travel, literature and English, history, and health.

Length of Broadcast. While we do not have scientific data on the ideal duration of a broadcast, we must consider the universal traditional division of radio time into fifteen-minute units. Actually, only about twelve or thirteen minutes of the time are devoted to the broadcast information; the rest is allotted for the identification of the station and the program. While the fifteen-minute period may be somewhat long for the children in the primary grades, it certainly is not beyond their attention span. Youngsters are accustomed to listening to the radio for at least fifteen minutes at a time at home. If they are comfortable and in a customary environment while listening, they will not find fifteen minutes tiring. In the upper grades the thirty-minute program may be introduced. The "American School of the Air," for example, presents its material in half-hour series, and many programs the children follow outside the classroom are half-hour shows. On the other hand, the radio program should take less

time than an ordinary class discussion. One advantage in the school-owned broadcasting facilities is that the duration of the program can be determined by specific needs and not by traditional time patterns.

Intervals of Broadcasting. Some authorities believe that different talks on the same material should be linked together as a serial course with a methodical plan of study. The writers, however, are of the opinion that at present it is much more satisfactory for each radio program to be presented so that it does not depend on other programs for completeness, coherence, or interest. The teacher should be free to select any single program without having to include all other programs in a series to insure continuity. The plan of a graded sequence where each lesson must be used as a link in a chain seems to imply an attempt to take the place of the teacher. The inference is that the teacher lacks ability to adjust the content of the program to his own teaching, and that he cannot be trusted. If radio programs are to be successful they must supplement the chosen curriculum and not supplant it.

Schools of the air often attempt to adjust the content of broadcasts to the ability of the pupils. We may use the Alameda City School of the Air for an example.

Our only problem is to adjust ourselves to the varying rates of progress of fast, medium, and slow classes. We approach this problem as follows: We ask teachers of representative classes, fast, medium, slow, and ungraded, to tell us about where their classes will be in the subject each week during the school term. We then adjust our programs to follow the average group. This does not render the programs useless to all other classes, however. Fast sections will have covered a subject in class before we present it on the air. These sections can use our programs for review. Slow sections will be preparing to attack a subject when we give our program. These sections can use the program as an initial stimulus to arouse interest. Medium sections can integrate our programs with their main actual study of the subjects in class. Teachers find that this plan works very well and that the programs do adapt themselves to these three types of use. It should be repeated for emphasis that in making our plans we consult teachers from different localities and do not give extra attention to the problems of Alameda teachers.¹⁹

This method of using a program has significance for every teacher

¹⁹ Erle A. Kenney, "The Alameda City School of the Air," *Local Broadcasts to Schools*, pp. 204-05.

who seeks to bring radio into his classroom. It emphasizes again that it is the teacher who must be responsible for integrating radio material with fundamental teaching objectives.

Adjusting the radio educational program to the school curriculum is not an easy process. Nevertheless, the teacher who uses radio will seriously consider the instrument an excellent medium of learning. He will realize that its use will add to rather than detract from the difficulties of his work, but returns can be inestimable. With a little effort and imagination in integrating the programs with other pupil experience, he will be rewarded by generous dividends.

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GENERAL INFORMATION

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ASSOCIATION FOR EDUCATION BY RADIO. 228 North LaSalle Street, Chicago, Illinois, and Ohio State University, Columbus, Ohio.

COLUMBIA BROADCASTING SYSTEM. New York. Director of Education and Talks.

EDUCATIONAL RADIO SCRIPT AND TRANSCRIPTION EXCHANGE. U.S. Office of Education, Washington, D.C.

FEDERAL RADIO EDUCATION COMMITTEE. U.S. Office of Education, Washington, D.C.

NATIONAL ASSOCIATION OF BROADCASTERS. 1760 North Street, N.W., Washington, D.C. Director of Public Relations and Education.

NATIONAL ASSOCIATION OF EDUCATIONAL BROADCASTERS. 1010 South Wright Street, Urbana, Illinois.

NATIONAL BROADCASTING COMPANY. New York.

ROCKY MOUNTAIN RADIO COUNCIL. 21 East 18th Avenue, Denver, Colorado.

U.S. OFFICE OF EDUCATION, RADIO DIVISION. Washington, D.C.

Part III

Teaching Language Arts with the Aid of Radio

Speech

LANGUAGE HAS BEEN DEVELOPED into an intricate, highly specialized, and exacting agency of communication. By definition, language includes any means of social intercourse: gesture, pictures, action, written or spoken symbols — any means of conveying ideas from one person to another. It is a cultural heritage, a residue passed from generation to generation, serving as a means of preserving for us the scheme of civilization. It must be realized that understanding and skill in language is not an end in itself, but a social tool. Depending as it does on speech, radio can serve as a focal point for language skills, and may offer an invaluable aid to the teacher.

Language arts, as we consider them here, are modes of communication by means of stereotyped symbols, both spoken and written. The most common, the most highly specialized and conventionalized means, is the system of spoken and written symbols. Of these various language arts of speech, reading, and writing, speech is the earliest developed. It is dependent upon man's own production, not requiring the use of extraneous materials. Developed in the immature human being, it requires accurate and specialized control of the vocal muscles on which it is dependent as well as guidance in the ideas to be conveyed.

Because language plays such a significant role in the child's comprehension of the world in which he lives and in his facility in communicating needs and opinions, it is mandatory that he be given an early and meticulous preparation for his use of this tool. It is the school which provides the first really controlled effort toward this preparation. This is the beginning of new restrictions and new opportunities; here the child becomes a member of a much larger group outside his home. Here his speech assumes new importance as a means of conversing with his comrades. Because it is prerequisite to many other skills and activities, speech must have special consideration and practice under the guidance of a teacher. This guidance is tending more and more to emphasize oral expression, especially for the preschool and elementary school pupil. In the elementary curriculum, speech training usually comes through appearances in

the auditoriums, in choric speech work, in dramatics, in recitations, in conversations, in speech correction, and in improvement drill. Radio may play a significant role in many of these techniques.

Radio a Tool in the Teaching of Language. Radio can serve as an excellent incentive and aid to work in the language arts. In the first place, it may serve an important function by clarifying the relation of speech to living. The teacher need not prescribe discussion or instruction in articulation for any particular grade level but may begin almost as early as the child enters his classroom. Unfortunately, there have been few specific programs designed to help him in this initial work at the elementary level. Several programs have been developed to elicit general interest in speech and its importance, and an alert teacher may recommend them for out-of-school listening or he may use them as source material for his own work. For example, the University of Wisconsin provided a valuable series entitled "What Is Good Speech and Why?"¹ This series attempted to vitalize speech, to give aid and basic information about the voice, about bodily coordination, and about the significant effects of oral communication upon our world. The topics included in this series were: "The Tools of Speech and How to Use Them," "The Lost Art of Conversation," "What Shall We Talk About?" "The King's English, American Style," "More and Better Classroom Speech." A program such as this provides splendid incentive for talks about the importance and fascination of language. These programs also serve as an introduction to activities such as observing illustrations of good and of poor language under varying life situations so that the vital, changing nature of speech patterns may be better understood. Similarly, "Our Speech," a program presented over the University of Florida station WRUF, entailed discussions of speech, with usages, problems, exercises, and opportunities for oral work.² The program was delivered for a visible audience, and it gave pupils the opportunity to ask questions and participate, thus making the whole experience more realistic. Advance outlines of the proceedings were sent to children, and the programs were offered over many commercial stations throughout the state. Achievement tests following these broadcasts indicated that boys and girls who listened to the series had better

¹ *Radio in the Classroom* (University of Wisconsin Press, 1942), pp. 154-56.

² Carroll Atkinson, *Radio Programs Intended for Classroom Use* (Meador Publishing Co., 1942), pp. 59-60.

speech habits and speech appreciation than did those pupils who did not have access to the program.

A program designed to compete with commercial shows through audience participation and by offering cash prizes is "Speak Up, America," sponsored by the Better Speech Institute of America, which attempts to vitalize speech and make listeners conscious of common faults and errors.³ Frank Colby, national authority on pronunciation and word usage, presented a program on words and pronunciation over several radio stations for some weeks. If such programs prove too advanced in content or approach to be of value to the youthful listener, at least they may provide added impetus and stimulation to the teacher who needs new ideas for speech training.

One of the important responsibilities of the educator is to ascertain speech defects. We do not advocate that the busy teacher attempt to give examinations and remedial training to the children with defects caused by physical or emotional maladjustments.⁴ He must know something of the problems involved, however, so that if he does not have the services of a specialist, he may at least diagnose common defects and make preliminary recommendations. In an interesting effort to aid the seventy-two thousand children of school age in Iowa with special defects and the teachers responsible for their classroom activities, the University of Iowa offered over its station a series of programs entitled "Speech Clinic of the Air."⁵ These programs were given for the teachers so that they might learn to recognize difficulties in speech and provide aid. There were lectures about speech correction in the elementary schools, the value of proper dentistry, and the place of home training in speech correction. Besides the true defectives, however, there are many who need aid and practice in voice improvement, both in the use of the voice and in the realm of thought and vocabulary, the instruments of speech. Here is an excellent opportunity for work by the alert teacher, and also for the judicious use of many radio programs, not merely those designed primarily for speech instruction.

Types of Programs Offering Opportunities for Speech Experience. There are so few programs centered around language study that we

³ "Speak Up, America," *Sierra Educational News*, XXXVI (October, 1940), p. 40.

⁴ There are more of these than we may care to admit.

⁵ Albert A. Reed, *Radio Education Pioneering in the Midwest* (Meador Publishing Co., 1943), p. 44.

find that most of the work in oral language in elementary schools must be done in conjunction with other programs. Perhaps it is advisable that there be few actual radio units devoted to the study of radio in relation to speech. Radio, however, may be considered as a constant source of inspiration and example in the improvement of language.

Some of the early activity of the kindergarten and primary grades may well be directed to speech training in an indirect manner. Since speech is a physical function, reflecting the whole personality, practice in bodily control in relation to speech is imperative. Children love to dance, to act, and to imitate. By relating these activities with physical control they may create a sound basis for speech development. Radio and recordings provide good music to stimulate the child to desirable controlled rhythmic activity. Likewise, breathing-control exercises, simple sound production, humming, and unison drills may be done to the accompaniment of music for beneficial results.

Radio as a Standard for Speech.—One of radio's greatest functions is to serve as a model. Many radio programs convey lessons in good speech techniques, vocabulary and usage, voice production, pronunciation, and clarity of meaning. The requirements for radio speaking and performance are stringent, the competition is critical, and in most instances the high standards are reflected by the quality of the work. At its best, radio speech is friendly, expressive, and conversational, worthy of study and imitation.

Our nation is composed of many sectional differences in speech patterns. There are three large language groups: eastern, including approximately 16,000,000; southern, including approximately 26,000,000; and general American, which includes 90,000,000. Besides these, there are smaller units wherein colloquial pronunciation and usages are developed. Distances, geographical barriers, racial backgrounds, the time and source of immigration to the country — all these factors are significant in relation to regional speech patterns. Words, pronunciation, inflections, and constructions common to a particular group of people may be affected by any or all of them. With our accelerated communication and constant travel over the nation, it is important to eliminate sectional differences. By its storytelling, drama, newscasts, commentaries, announcements, and inter-

views radio is doing much to erase these regional language variants and standardize American speech.

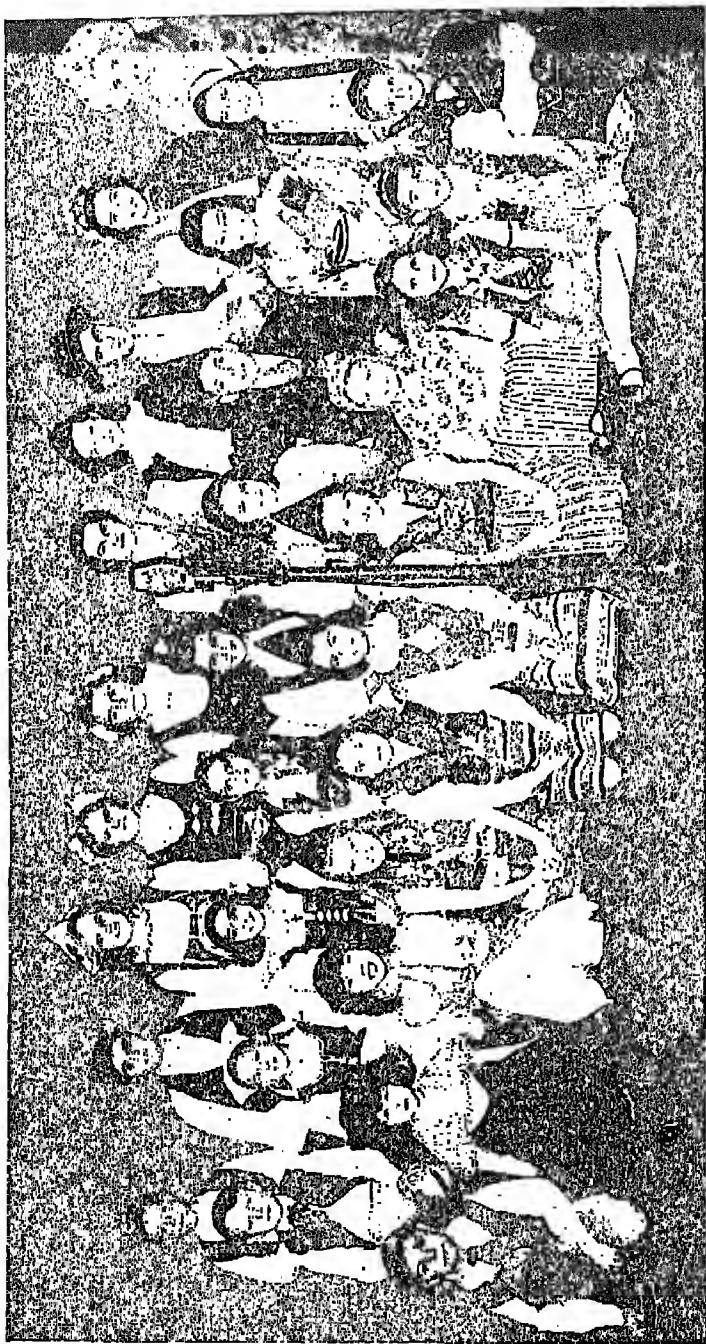
Unfortunately, there are exceptions; in some cases poor speech comes over the air waves. This occurs occasionally when a person who is addressing the audience is of national importance and worth hearing and yet not well trained in articulation or expression. It may also occur in some high-pressure advertising.

Most frequently we find poor speech habits woven into comedy skits and dramas. Various characters are known by their stereotyped speech peculiarities. Archie of "Duffy's Tavern," Amos 'n' Andy, Bob Burns, and Kenny ("Senator Claghorn") Delmar are prominent examples. Included in many dramas are persons with a slangy fashion of expression, persons speaking pidgin English and other dialects supposed to identify this or that type of individual or the locality from which he comes. A clever teacher can elicit interest in speech arts by mentioning these popular programs and by pointing out that these speech habits, while humorous in their setting, should not be imitated. Although this type of "negative example," appearing as frequently as it does in radio and other forms of communication, cannot be ignored, it is best to call attention to the merits of good radio speech.

Speech patterns are naturally used to differentiate characters in radio drama. Admittedly, radio drama depends almost entirely upon the impression of the voice, and too often relies upon stereotypes for its effect. Although these stereotypes may be useful for the purposes of the dramatic sketch, they really contribute to prejudices and false ideas regarding races and groups of people.

Radio an Aid to Correct Pronunciation. The training of pupils in correct pronunciation has always been a formidable hurdle for the teacher. The usually accurate pronunciations of radio people may be used as examples of commendable speech. After using radio speech as a model, pupils may find it easier to spot errors made by their classmates. Ruth E. Jones describes a unit on pronunciation and radio used in the Loring School.⁶ For six weeks the pupils had a special drive against errors in English usage. Members of the 7A and 7B classes listened assiduously for errors made by pupils in

⁶ Ruth E. Jones, "Language Development via Public Address System," *Journal of the Association for Education by Radio*, III (April-May, 1944), p. 6.



National Broadcasting Company

*"Christmas Around the World" Was Broadcast by Stations WBZ and
WBZA to Acquaint Americans with Foreign Customs and Carols.*

the classrooms, in the hallways, or on the playgrounds. Two boxes were placed in the office, one marked "Sentences," one marked "Pronunciation." Students would submit lists of erroneous words and sentences in these boxes. From these a committee made a list of five sentences that contained errors and a list of five words mispronounced. At stated times these errors and words were broadcast over the public address system to all the children in the school. In the primary grades the teachers wrote the sentences and words on the blackboard. In the upper grades a child did the writing. Each class strove to improve itself during the week. The following week the incorrect and correct forms were given over the public address system and the children repeated the correct forms. Five new sentences containing errors and five new words mispronounced were then presented for study. This type of unit could easily be adapted by almost any classroom or school for the benefit of everyone in the school.

Radio and the Development of Voice Quality. Radio may also be regarded as a model for expression by illustrating words and sentences used correctly. The goal should be accuracy, clarity, variety, strength, and beauty. While listening to the radio, students should ascertain what qualities of radio speech are worth cultivating, and then undertake drills, exercises, and other assignments made by the teacher to help them realize these aims. Through radio the child hears announcements, advertising, interviews, round table discussions, forums, narrations, plays — in fact, virtually every type of speech, thus stimulating his progress in oral communication.

Radio and Vocabulary Growth. A teacher might lead a class in the acquisition of an effective vocabulary by using the radio as a source. By its very nature, radio requires vital, meaningful, connotative, vivid words describing many subjects. The children might be asked to bring in a daily list of effective words gleaned from their radio listening at home or in other classes. WBOE, the Cleveland station, offered a program called "Fun from the Dictionary" for in-school use. Although designed for the high school level, it might be adapted to the elementary school. In this series words are introduced by means of dramatic interludes and analyses by a pupil panel.⁷

⁷ WBOE — *His School Station's Voice* (Pamphlet, Cleveland, Ohio, Public Schools, 1944).

A Specific Unit in Radio Speech. It is difficult to suggest a specific radio unit for use in speech training because in the elementary school, the authors feel, work with speech arts should be continuous and integrated. The type of subject matter to be considered would vary greatly with the degree of maturity and readiness of the pupils. Speech arts embrace an enormous and expanding area, with material for every grade level. For example, work in the primary grades can be limited to simple vocal exercises, conversations, and word building, whereas the pupils in the upper elementary grades may even consider the whole field of semantics. In either case, the teacher may approach the subject of speech training through radio by making an inquiry into pupil preferences in programs, artists, and music. Pupils may be encouraged to discuss orally certain aspects of radio and radio listening. Perhaps the teacher may even suggest that they engage in some "opinion polling" to discover what their parents and older brothers and sisters think about radio.

Another very congenial approach to speech through radio can be made by a consideration of humor or drama. There are countless occasions in which listening may serve as the impetus to action and study. Radio should not be depended upon, however, as the only or major means of motivation. It is, after all, but one avenue of approach.

Radio and Formal Debate. One of the types of oral activity which may find stimulus from radio is debate. We do not recommend the extensive use of formalized debating in elementary schools, except possibly in the upper grades. In most instances greater benefits for self-expression and idea development will be found from discussions, forums, and conversations. Nevertheless, debate demands stringent logic and affords excellent discipline in language usage. Although debates are infrequently heard over the radio, many programs offer information which may be adapted to this form. This is particularly true in relation to current events analyses and forums. Thus, the class may select for debate a topic suggested by controversial subject matter heard over the air. In instances where mock or in-school broadcasts are used as oral activity, the debate is a sound technique. Emphasis, however, should always be directed to content and manner of presentation rather than to precise time requirements or mechanics. Real values lie in word choice, organization, delivery, and coordination of ideas in the presentation of material.

Radio and Choral Speaking. A comparatively new venture in speech is choral speaking. This form of speech art involves the unified work of several individuals who speak in unison (there are sometimes solo parts) in delivering poetry or prose. Not only does this type of work, modeled perhaps upon the ancient Greek chorus, allow for effective experimentation; it also has certain interesting psychological sidelights. It is significant because it requires group coordination and activity and definite motor responses. It is a group attempt to convey meaning through words which are beautiful in sound and rich in connotation. It is important for use among many children, for it allows them participation in expression. It offers an opening for the shy, restrained child who would never volunteer to recite before a group; conversely, it offers a certain restriction to the hardy show-off who seizes each opportunity to take the stage. In choral speaking, all types must conform to the prescribed technique in order to achieve the desired effects.

Choral speaking is well adapted to group activity and to the expression of group ideas. Frank Daly, a teacher at Hartford, Connecticut, reports very fine results through the use of choral speaking in building self-confidence in his pupils and in promoting speech correction.⁸ If one is speaking in unison with a group, he will attempt to mold his expression to the accepted pattern. Even without direction, he may be unconsciously correcting some error in pronunciation or in voice production. If there is a serious defect in speech, he may be able to do remedial work unself-consciously by attempting to follow the other students who are participating in this choral program.

An active broadcasting group, the Koralites, consisting of three girls and three boys, have achieved much in promoting choral speaking. Besides appearing on many radio programs, they have appeared at hundreds of eastern schools, demonstrating how effective this type of activity may be and how well adapted it is to speech training. Pupils may also profit by listening to the work of the Marjorie Gullan Verse-Speaking Choir. This group has recorded many famous and interesting selections from literature which demonstrate the versatility possible with such a medium of expression.

⁸ Kenneth Hayden, "Choral Recitations on the Air; a New Procedure for Teaching Poetry," *Education*, LXII (March, 1942), pp. 419-20.

"Lines from Endymion," "The Death of Absalom," "Tyger, Tyger," "Wraggle Taggle Gypsies,"⁹ are examples.

The Public Address System and the Speech Arts. Ideally, there should be a public address or in-school broadcasting system which will allow the pupil to practice, so that he may utilize his growing knowledge of the speech arts. The board of education of Minot, North Dakota, was one of the first to make extensive use of microphones in its elementary schools to encourage better language habits.¹⁰ Microphones were reported to have created great interest in speech work. Often the only opportunity for speaking is provided by classroom recitation or by auditorium performance. Mock broadcasts provide the stimulus of an important occasion and offer all the pupils a chance for participation. In the elementary grades the emphasis should be upon development of ideas, not on performance, however. The pupils should be taught to use speech naturally in various situations, conveying their ideas easily and pleasantly. The use of radio, either in actual or in simulated broadcasts, can offer opportunities for such practice.

We may cite two noteworthy examples of work. The students at the Lorna Avenue Public School in London, Ontario, have daily use of the in-school broadcasting equipment for exercise in speech situations.¹¹ For fifteen minutes at the opening of each school day a different class in grades III to VIII offers a program of hymns, Bible reading, announcements, stories, thoughts, or poems. For variety there are songs, vocal and instrumental solos, playlets, and addresses by the pupils. The various classes take turns with the respective programs. The pupils in the kindergarten and the first and second grades are given opportunity to prepare for their duties by weekly presentations of "The Story Hour." Thus, during the school year all pupils have opportunities for self-expression.

In Lewiston, Idaho,¹² the pupils gave a program entitled "From the Classroom" in which they recreated classroom situations before

⁹ "Marjorie Gullan's Verse-Speaking Choir," *A Catalogue of Selected Educational Recordings*, Recordings Division, New York University Film Library (New York University, 1944), p. 35.

¹⁰ Albert A. Reed, *op. cit.*, p. 114.

¹¹ Edna Arscott, "Our Experiences with the Public Address System," *The School* (Elementary Edition), XXXII (March, 1944), pp. 592-94.

¹² Lola Berry, *Radio Development in a Small City School System* (Meador Publishing Co., 1943), p. 32.

a hand microphone used by a student announcer. Each week a different schoolroom was visited and the proceedings broadcast. This added excitement and interest to the work of the classroom, making the students more alert in their answers and more careful of their language and manner of expression. Inasmuch as it was "on the spot," unrehearsed broadcasting, the pupils were encouraged to integrate good speech habits with their regular work. It is just another one of the ways in which public address equipment may be used to foster the art of speaking correctly and vividly in every situation.

Recordings may augment and reinforce the place of radio in speech training. Even if the teacher does not have access to radio in the classroom, he may use recordings. Fine examples of interpretation and delivery are increasingly abundant on electrical transcriptions. The teacher may offer pupils valuable experiences in listening and improving their own speech habits by bringing these recordings to their attention. For example, the pupils may have access to the "Anthology of English Lyric Verse,"¹³ or such stories for very young children as "A Christmas Carol,"¹⁴ "Bertram and the Baby Dinosaur,"¹⁵ and "Peter and the Wolf."¹⁶ The "Daggett Speech Series," which includes "Good Diction on the Radio," Frost's "Mending Wall," etc., is excellent.¹⁷ As the pupils mature, they may benefit from some of the splendid interpretations of the work of Shakespeare or the readings from Sherwood's *Abe Lincoln in Illinois*.¹⁸ The possibilities are almost endless. Furthermore, transcriptions of actual broadcasts are frequently available. Pupils may listen to significant talks by outstanding men and women and to performances of special merit and interest.

If the teacher has access to recording equipment he may use it for remedial work. After the pupils have their voices recorded and listen to the results, they are usually eager to participate in exercises which will help to develop good qualities and correct their errors. Subsequent voice recordings at various intervals serve as a motivation for

¹³ "Anthology of English Verse," Victor Records, Album M-810.

¹⁴ Charles Dickens, "A Christmas Carol," Victor Records, Album DG-29.

¹⁵ "Bertram and the Baby Dinosaur," Victor Records, Y-310.

¹⁶ Prokofieff, "Peter and the Wolf," Victor Records, DM-566.

¹⁷ "Daggett Speech Series," *A Catalogue of Selected Educational Recordings*, Recordings Division, New York University Film Library (New York University, 1944) p. 52.

¹⁸ RCA Victor.

speech work, for drill, and for an added alertness to the mistakes and commendable qualities in one's own voice and in the speech habits of others.

Emphasis should not be centered entirely upon defects of speech, however; even more attention should be directed to the plus qualities upon which the pupil may build a more effective manner of expression. The use of recordings provides a permanent record for reference, an opportunity to note progress, and a graphic illustration of the power of speech as a means of communication. Inasmuch as it is impossible for a person to hear his own voice as it sounds to others while he is actually speaking, it is especially profitable to have it recorded. After a pupil is aware of his faults in pronunciation, in voice production, in word usage, the teacher usually finds him co-operative about making an effort to correct these weaknesses. Excellent examples of good radio speech may inspire in the pupils a wish to use speech effectively. The use of recordings may help to achieve this goal.

One of the significant functions of radio is the provision of information and stimulation which touches the imagination and leads to study and activity. Speech reflects thinking; if the mind is slovenly, incoherent, or puzzled, speech will accordingly lack clarity and purpose. Even when the voice production techniques are mastered, there must be abundant well-organized ideas for effective speech. Radio programs, with their great variety, unquestionably enliven the avenues to thought and expression. The subject matter of programs, as well as the function of radio itself, offers fascinating topics for discussion. Many splendid units for work in language arts, radio appreciation, and social studies have been built around the background and function of this powerful agency.

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Reading

Section I. PROSE

The child's knowledge of his world is enormously extended when he learns to read. New vistas of beauty and excitement open up to him, and new fields of science and adventure are his. If he could appreciate from the start the joys which come from the mere mastery of certain conventional symbols, he would regard learning to read as a welcome opening to new horizons. Unfortunately, he often finds the new and strange symbols boring, and the things he first reads about may seem simple or even silly, especially if his experiences have made him more sophisticated. One thing, however, is in his favor: he can build his reading ability upon a foundation already acquired in speech. He will soon observe that reading and speech are allied channels of communicating with the world about him. Radio, which increases a child's acquaintance with spoken language, cannot teach him to read, but it can supply, in a familiar medium, strong motivation and curiosity about worthy and interesting subject matter.

Radio as a Preparation for Reading. Long before he ventures into the classroom, the child begins to establish a reading readiness. The child learns to speak gradually and naturally, in answer to a need to make himself understood. While he will profit by skillful direction, he must learn to read in the same gradual way, this time in order to understand the printed word. New experience stimulates his need and desire for the skill of reading. The teacher must look to the home life of his pupils for the source of departure for his lessons in reading. Even after the child is in school his home activities may be the foundation for much of his interest in reading.

The home experiences of children differ greatly. Certain activities are common to nearly all youngsters, however: seeing the mailman and the milkman, visiting the park, or welcoming neighbors. Listening to the radio is a major component of most home situations, and it is the radio program which may serve as an ally for the teacher in his initial work in helping children to read.

Listening to an expert storyteller is always an exciting pastime for

the very young. They will follow avidly the exploits of a favored character, even when the action is familiar to them from countless repetitions. Not every child has a parent or an older brother or sister to read to him or to tell him stories, but nearly all children have the privilege of listening to stories on the radio. Not unnaturally, radio has had its successful storytellers for young listeners: Nila Mack, Isabel Manning Hewson, Madge Tucker, Ireene Wicker, Lydia Perera, and many local narrators and story-dramatists. Women have had no monopoly in storytelling, however. Many a station has an Uncle Don or Uncle Bill to read the "funnies" or relate simple tales. The interest established during the preschool years by these storytellers may easily be capitalized later in the classroom.

In the first place, radio storytellers familiarize children with many of the characters and adventures they will read about in school. While many original stories are written for radio, the preponderance of material for young listeners is selected from the vast storehouse of children's classics. In the second place, radio stories introduce children to a great variety of experience, both real and imaginary. Radio broadcasts dealing directly with books, radio conversations about them, and dramatic portrayal from books all help to make the literary experiences personal and exhilarating and thus more effective to the child.

Radio and the First Steps to Reading. If the youngsters have enjoyed hearing a story, they may enjoy looking at picturebook illustrations of the characters and action introduced by their teacher. The teacher may begin to associate the written symbols with the pictures and the sound of the words. Listening to a radio story will often stimulate the child to express his own ideas and experiences. When it does, the teacher has an opportunity to print on the blackboard simple words and sentences describing the adventures which the pupil has related. The object is to acquaint the child with the idea that these stereotyped symbols are symbols of his own ideas which give his words a permanence not achieved through oral expression. The teacher should use simple action words and image words and should make use of the pupil's enjoyment of repetition. Gradually the children are able to examine the simpler preprimers and glean some meaning from them, recognizing certain words which indicate familiar objects.

After the children are familiar with the preprimers, attention should be shifted to special words and phonetic combinations, which should be frequently repeated. The beginning reader should study several preprimers before he attempts even the simplest of first readers, for the steps toward more difficult reading should be easy and systematically graded. All work should be carefully supervised, and every effort should be directed to relate the reading experience with real life. The experience of reading should be dramatized, and it should be coordinated with many other experiences. For instance, listening to a radio program and then reading a story of the same type may bring pleasure to the child and give him an increased-enjoyment in pursuing a new skill.

While the teacher may use radio stories in teaching, he must be alert to his responsibility for careful grading. This is particularly true in regard to vocabulary. Radio programs are designed to appeal to children of a wide range in age and experience, and the teacher must be alert lest he fail to make adequate preparation and explanation for all his pupils.

The experience of reading must be vital, stimulating, and meaningful. Reading is a springboard for the child's enlarging concepts of the world beyond his play yard and school and community. By acquainting him with many different people and places, radio creates a desire to know more, to read more. The newscast tells him about national and international affairs, music, and the drama. Each helps to awaken his desire to play a role in the social world beyond the narrow physical limitations of his environment.

The teacher may also turn to literature presented over the radio for examples of the elements of good prose and poetry: plot, action, suspense, humor. The demands for good radio writing are rather rigid, and these qualities often stand out sharply and may be easily appreciated. If the teacher points out the good qualities of plot and language in radio stories, it may help the child to recognize them in his own reading.

One of the criticisms of radio has been that instead of offering an aid to reading, it provides competition, that instead of stimulating the child to read, it lulls him into passive listening. These apprehensions are as mistaken as earlier fears that radio would replace the classroom teacher. Perhaps the radio and movies have caused a

decrease in reading (both media have been censored), but before we condemn either radio or the movies, we must recall that the amount of reading is not as important as the quality. Radio and movies can have a great and beneficial influence upon the form and scope of reading. As libraries, schools, and other educational agencies become more skillful in using radio and movies to stimulate good reading habits and interests, the new advantages created by these media may appear. Certainly this has been true of the reading habits of adults, who have not even had the advantage of classwork and direction to help them integrate radio listening with their reading. According to Lazarsfeld, two out of every three persons above the grade school age level can remember offhand at least one specific instance in which they were influenced by radio to do some follow-up reading.¹ School children should profit still further with specific guidance and practice in turning from listening to allied reading materials. These possibilities should be encouraging to any teacher who hopes to find an ally of reading in radio.

A study has been made of the differences in reading interests and reading gains between students in classes which listened to radio presentations of books as part of their curriculum and those in classes which did not.² Five specific books were studied in all the classes over a period of six weeks, and the increase in number and scope of reading interests and in the number of books read during the period was measured. While the students in the radio group did not show a statistically significant increase in the spread of literary interests over the pupils in the control or nonradio group, the radio group did read a significantly larger number of books. The average for the radio group was 9.32 books read; the average for the control group, 6.32. The implication is that radio presentations of literature may help to increase the amount of voluntary reading for such a privileged group.

We must recognize that the radio can have an effect upon already established reading habits. If, however, reading is encouraged by the schools, perhaps the group which reads regularly and discriminately may be enlarged by the help of radio. It is true that people with only a mild, cursory interest in a subject will listen to, possibly even seek

¹ P. F. Lazarsfeld, *Radio and the Printed Page* (Duell, Sloan and Pearce, 1940), p. 312.

² Seerley Reid, "Reading, Writing, and Radio: A Study of Five School Broadcasts in Literature," *Journal of Applied Psychology*, XXIV (December, 1940), pp. 703-13.

out, a pertinent broadcast when they would never make the effort to select a book or a magazine article for information. Radio programs are usually simpler, easier to follow, more easily available, more elementary in their treatment than articles and books, and in regard to many subjects, radio offers most people all they wish to know.

But while radio may thus reach and influence more people than can books, it does not exhaust the logical possibilities of any subject. It does not give listeners profound or progressive information; it does not build layer upon layer of understanding. This is natural, because a radio audience cannot assimilate much in a short time. Furthermore, because of radio's intermittent and fluctuating audience, it is impossible to go far beyond the basic outline of a subject even in a series of broadcasts. The real progression is from radio to follow-up reading, and this is the very thing which most educational programs are striving to accomplish.

Programs Which Stimulate Interest in Literature. The connections between radio and literature are both direct and indirect. We shall notice here certain types of programs which have proved effective and indicate possible lines of further development.

Radio promotes reading directly through book reviews. It does not matter whether the books which radio brings to the attention of pupils are current best sellers or classics. The medium of radio is well adapted to either. In the "Treasures Next Door" scripts, a Department of Education feature available in script form through the Radio Script Exchange, emphasis was given to famous classics which should become part of the child's cultural environment. Many of the stories told on "The Story Hour" (Detroit Public Schools) and on "Lady Make-Believe" (Chicago Public Schools) were devoted to traditional favorites. A special program such as "The Battle of the Books" (Chicago Public Schools) depends upon an acquaintance with the so-called classical literature of childhood.

Book reviews for children may consist of actually telling the story up to a certain point and stopping at a peak of interest so that the youngsters will wish to read the entire selection to discover what happens. This, of course, may elicit interest only in a particular book. It is preferable to give the review in such a way as to motivate children to read books within a group or class, since the particular book mentioned may not always be available. Rather than

concentrate on any single book in a broadcast, it may be wiser to deal with several stories in an attempt to attract individual interest to some one book discussed, thus allowing for the natural differences in taste. Usually there is no time available for discussion of more than two or three books on one broadcast, for it is important to give more than the mere title and general idea of a book. The review should make the story vital; it should give interesting data about the background, the story, the characters, the author, and the period, and furthermore attract favorable attention to the general type of reading represented. A good review designed especially to appeal to children must be in terms of pupil understanding and interests; it must not be a "literary critique." It must make the book as pleasing to as large a group of potential readers as possible.

At the State College of Iowa (Station WOI) there has been developed a book review series which combines the features of a review and a digest. The discussions, designed for adults, include a study of various kinds of books, magazines, and journals. Because we wish our children to read widely, a similar program dealing with children's interests in books and periodicals would be invaluable. Another undertaking of the State College of Iowa has been a lending library from which listeners may borrow twenty books for follow-up reading. The purpose of this lending library was primarily to help the rural audiences, but the listeners in the urban areas made the greatest use of it.³ This type of service could well be adapted for juvenile listeners so that they might secure the books mentioned on a radio program. A central agency could distribute the books to school libraries as they were requested.

The direct summary or review is perhaps the simplest literary program to produce, since it is usually given by a single person for an entire series.

Stimulating experiments have been made toward the dramatization of books. This type of program has achieved real popularity. Countless series of broadcasts have been built upon famous books or stories. Among the newer series is one entitled "This Is My Best," consisting of dramatizations of books which the authors designate as their best. Another current series is "Great Novels,"

³ Albert A. Reed, *Radio Pioneering in the Mid-West* (Meador Publishing Co., 1943), pp. 33-34.

dramatized versions of established classics. At one time station WAAB, Boston, with the cooperation of local booksellers, produced a program, "Book Theatre," in which scenes in current books were dramatized. Because children are particularly fascinated by drama, the dramatic form should prove especially effective for them. According to a study made of fifth grade children by Mae O'Brien, children enjoy dramatized versions of stories.⁴ If serial adaptations are used, however, each broadcast should be complete in itself, and the scenes should not be dragged out just to keep up continuity.

We may cite several popular children's programs designed to dramatize literature. WOI (State College of Iowa) presented a dramatized series of *The Adventures of Tom Sawyer*. Among the "Tales Old and New," a series produced by Betty Girling at KUOM (University of Minnesota), many episodes have been dramatized. The series "Fiction Parade," WSUI (University of Iowa), offered the dramatization of books which students read as part of their schoolwork. The programs included such important books and stories as "The Man without a Country," "Outcasts of Poker Flat," and *Ramona*.⁵

Undoubtedly the most popular children's shows are serial adventures. It is true that some of these programs are poor. Some of the radio serials are as cheap, vulgar, and meaningless as the offerings of the pulp magazines. Inasmuch as it is difficult to discourage children's listening to these programs, teachers and parents might use the broadcasts as lessons in discrimination. A case in point is cited by Mrs. Sidonie M. Gruenberg, who tells of a group of ten-year-olds of good cultural and educational background whose favorite reading was trashy literature.⁶ Instead of showing alarm, one of the mothers simply gave her child copies of stories by Poe, Doyle, Stevenson, and others to read along with his own selections. The writers she presented offered exciting, stimulating tales, and soon the child was reading the good literature and discarding the other. The same strategy might be applied to directing the child in his selection of radio literature. Rather than attempt directly to steer him

⁴ Mae O'Brien, "I Listen to Children," *Teacher's College Record*, XLII (April, 1941), p. 630.

⁵ These are among the selections for the 1944-1945 year.

⁶ Sidonie M. Gruenberg, "Programs for Children," *Radio and English Teaching*, p. 171.

away from the radio fare he chooses, let the teacher or parent offer him better examples to listen to along with those he selects. The teacher may then emphasize the finer examples, suggest follow-up activities, and thus link the radio stories with good books.

Good literature could be presented in the form of serial drama. It would gratify children's need of a continued story, acquaint them with good writing, and increase their appreciation of real literature. It would be much easier for an English teacher to direct the attention of pupils to work by Kipling and Dickens if the youngsters were already acquainted with these authors from their radio listening. When a novel or story is not readily adaptable to dramatic presentation, much of the interest might be maintained by having a talented narrator read the piece serially. This would have some of the psychological effects of the continued drama.⁷

Another way for radio program planners to promote reading is to sponsor literary contests. Part of the extremely popular "Once upon a Time" program, sponsored by the Public Library of Denver, Colorado, consisted of "hidden book title" contests.⁸ An original story was read in which were incorporated thirty to fifty titles of children's books. The listeners were asked to identify as many of these as possible, and the child with the greatest number correct was awarded a prize of a book. From time to time various other book games were included in the broadcasts.

"The Battle of the Books" is a popular literary program offered by the Board of Education of Chicago. Each week teams from two elementary schools in the city compete over the radio to test their knowledge of books. Questions for contestants are sent from the

⁷ According to Sterling Fisher, many techniques of teaching appreciation of literature were tried as part of the American School of the Air. While the producers used the dramatic technique successfully, combining it with music, sound effects, and so on, they also discovered that children enjoyed a good straight narrative. In their special literature series, "Tales from Near and Far," CBS used straight narrative with most satisfactory results. In the case of Richard Bennett's "Shawneen and the Gander" several voices were used in the reading, and this program proved to be one of the most popular of the series. This series, by the way, designed for the elementary grades with the assistance of the Association for Arts in Childhood, the American Library Association, the National Education Association, and the National Council of Teachers of English, stresses relatively unfamiliar but excellent modern books for children. Many of the selections include foreign fairy tales or stories about children in other countries so that there is value in increasing international goodwill and understanding. Sterling Fisher, "Columbia School of the Air," *Radio and English Teaching*, p. 160.

⁸ Katherine Watson, "Radio's White Swan," *Library Journal*, LXV (May 1, 1940), pp. 358-59.

youngsters in other schools. This is valuable for both groups of participants, those who answer the questions and those who submit them, for making up questions about a book is not only stimulating but also tests one's knowledge of the story and its implications.⁹

Still another technique to develop interest in books through radio is the use of a guest speaker. The "Once upon a Time" program mentioned above had a guest speaker each month. This person was someone well known for his interest in books. The introduction of the author on programs is more usual on adult programs such as the splendid CBS series "Of Men and Books" or the program "The Author Meets the Critic," in which an author is asked trenchant questions about his work. For current literature this technique might prove especially popular with young listeners. Kimball Flaccus has prepared a series of recordings in which poets read and discuss their own verse. He has found them valuable in stimulating interest in poetry.¹⁰ Other forms of literature treated this same way might have splendid results for the teacher.

These, then, are some of the types of programs which may be used effectively to encourage reading by elementary students. We know that children are interested in adventure, in aviation, in atomic energy, in all the exciting activities of our world. If radio programs can make pertinent books vitally appealing, students will naturally turn from the radio to reading in order to pursue an idea.

Value of the Nonliterary Program in Teaching Literature. Almost any experience may lead a child to read and investigate, but often the ingenuity of the teacher is taxed to make pupils aware of the storehouse of information and pleasure available to them. It requires constant vigilance and considerable imagination to link reading activities with all types of radio programs.

One kind of program which merits attention even by very young children is the news release. News of the world today requires background reading for a fuller understanding of nations and peoples. Teachers may take the opportunity to introduce stories about people and events in foreign lands and in our own country. Often a news-

⁹ Jean Simpson, "Mother Goose to the Battle of the Books," *Journal of the Association for Education by Radio*, II (September, 1942), p. 5. Also, *Battle of the Books*, unpublished report of the Radio Council, Chicago Public Schools, 1944-1945.

¹⁰ Kimball Flaccus, "Adventure in Poetry: Recording by Poets," *Quarterly Journal of Speech*, XXVIII (October, 1942), pp. 315-23.

cast, particularly one of the relatively few designed especially for children, may serve as a starting point for reading of a particular type. It is good when this occurs spontaneously. More often, however, the teacher must suggest the follow-up reading.

Programs devoted to the presentation of important figures of history, literature, or science may also lead to supplementary reading. Such a program is the University of Chicago's fine "The Human Adventure." Although this is distinctly an adult program, it may be used as part of the out-of-school radio fare of the upper elementary school pupil. Telling the story of mankind, the program investigates interesting bypaths of science, the humanities, psychology, and other subjects, and motivates thoughtful consideration of our world. "Freedom of Opportunity," sponsored by an insurance company with the help of the United States Junior Chamber of Commerce, could stimulate follow-up reading, for it dramatizes the lives and achievements of many of America's outstanding young men and women. Similarly, the popular "Cavalcade of America" may encourage the juvenile listener to study the characters portrayed. This program is usually concerned with well-known historical figures, and the literature about them is generally so readily available that the teacher should be well able to recommend references to the interested student.

Quiz shows may make children wish to know more about a particular subject through the use of libraries and related books. More often question-and-answer shows refresh their memory of things half forgotten. Most of the quiz shows are directed to adults, but there have been experiments in presenting them for children. For several years, over a San Francisco station, the Gallenkamp Shoe Company offered a popular program called "Oh, Teacher!" Children were invited to submit questions in an attempt to "stump" their teachers. Each week a representative board of teachers was selected from the schools of the vicinity. If the questions by the children were not answered correctly by the board, the child submitting the question was given a prize. Interest in this program kept both pupils and teachers alert to find and verify facts, and the program received considerable popular attention. The perennial "Quiz Kids" has doubtless exploited superior ability among its contestants, but it has also created genuine interest in knowledge among its juvenile followers.

It has served to make "knowing things" attractive and not something of which to be ashamed. How much quiz programs contribute specifically to reading is unknown. Probably their greatest asset is making knowledge attractive.

Other Motivations for Reading. An especially fertile field is found in the use of radio scripts which are available to teachers of literature. Excellent material is obtainable from the Educational Script Exchange. Scripts may be presented as actual broadcasts for educational purposes over local or regional stations or by school systems or as mock broadcasts. Among the units built around literature is "Golden Legends," originally presented by the Alameda City School of the Air. The material includes adaptations of such classics as *David Harum*, *The Scarlet Letter*, and *The Count of Monte Cristo*. "Interviews with the Past" includes six scripts dealing with such celebrities as Shakespeare, Napoleon, and Franklin. Each person returns to the earth to be interviewed, and the words spoken by these historical characters are direct quotations. The student learns about the characters from the individuals themselves, as it were, and not only through their ideas but also through the manner in which their ideas are presented. Other prominent series from the Educational Script Exchange include "Treasures Next Door," "Gallant American Women," and "Americans Who Made History."

The Public Library of Rochester, New York, has developed valuable scripts. For the fifth and sixth grades are "Roland," "Beowulf," "The Erie Canal," and "Valley Forge," and for grades seven, eight, and nine, "Mary, Queen of Scots," "Evangeline," and similar material.¹¹ These provide information when it may be of greatest value to the child in relation to his study of reading and literature. The scripts may be presented over local stations at a time when they will be of maximum aid to the schools either for in-class or out-of-school listening.

Another source of literary materials to promote reading is found in electrical transcriptions. First-rate transcriptions and recordings of great poetry and of excerpts from prose literature are available. These have been made for general enjoyment, not merely for school use. Some companies devote especial attention to the educational use of electrical transcriptions. For example, Studidiscs offers drama-

¹¹ Julia Sauer, *Radio Roads to Reading* (H. W. Wilson Co., 1939), pp. 236-38.

tizations and narrations from great literature for schools. Their catalogue includes selections such as "Horatius at the Bridge," "Launcelot and Elaine," "The House of Seven Gables," and "Silas Marner."¹² The Columbia Recording Corporation offers such material as "Our American Heritage" and readings by Wesley Addy of the Mayflower Compact and the Gettysburg Address.¹³ This company also offers readings in poetry and drama.

One of the most frequent sources of material for relating radio to reading is the public library. Libraries are cooperating with the schools and with broadcasting companies by presenting displays, by setting up special racks and shelves for the books featured on various programs, by posting listening schedules, and by directing all possible attention to worthy radio programs. In addition, they are also often the producers of programs themselves. We have already mentioned the very popular library programs of the Denver Public Library and the Rochester Public Library.¹⁴ Among the undertakings of the "Magic Bookshop," the Rochester Library program for 1944-1945, was the celebration of Book Week, the two-hundredth anniversary of the publication of the first book for children. The broadcast included a discussion of the importance of books and three suggestions for the celebration:

1. Visit the display at the children's room of the main public library to see materials and facsimiles of early children's books.
2. Read about books, printing, and manuscripts.
3. Read or reread stories that "belong" to children of other lands but are really a means of uniting all through books, i.e., *Alice's Adventures in Wonderland*, *Don Quixote*, *Honey-Bee*, *Grimm's Fairy Tales*, etc.¹⁵

Many other libraries have recognized broadcasting as a means of publicizing their work and as a public service to bring significant books to young listeners. For example, the University of Nebraska Library included "Book Nook News" in its schedule of programs. The Cleveland Public Library presented a program called "The Book Quiz." Each listener submitting a question which was used was sent a copy of a current book as a prize. Because so many questions were

¹² J. Robert Miles, *Recordings for School Use* (World Book Co., 1942), pp. 83, 84, 102.

¹³ Columbia Record Catalogue, 1947, p. 103.

¹⁴ See pages 121 and 124.

¹⁵ "Tuning in the Rochester School of the Air," unpublished bulletin of the Rochester Board of Education, week of November 13, 1944.

submitted by children, it was necessary to produce a "Children's Book Quiz" at frequent intervals. Many publishers of children's books participated by supplying free copies as prizes. Thus a juvenile book quiz series began in answer to spontaneous interest.¹⁶ Library programs are usually offered at out-of-school hours unless they are part of a school of the air. They may be classed as extracurricular listening even when they tend to recommend books supplementary to those on the school lists. Suggestions from a "personality," by someone outside the family or the schoolroom, through such a fascinating medium as radio often are especially attractive to children.

Libraries might well distribute and publicize annotated lists of programs dealing with literature for children. Often these may be worked out by a library committee or may be adapted from those offered by the audio-visual departments in school systems like those of Los Angeles or Chicago. Furthermore, libraries could promote reading by developing special reading rooms and special shelves on which to display books featured on popular radio shows. Special listening rooms where outstanding programs or recordings could be brought to the attention of the children might be added. Any radio programs selected to be heard in the library should have a direct connection with literature and offer opportunity for follow-up experiences with reading.

Follow-up Activities. Good teaching is the key to the effectiveness of a broadcast intended as a stimulus to reading. The responsibility is the teacher's alone. In the use of radio to stimulate reading, follow-up activities are really more important than preparation, and the instructor must give them special attention.

Literature involves an emotional as well as intellectual experience, and the teacher should point out that reading can provide advantages with which even the finest of radio adaptations cannot compete. There is the pleasure of lingering again and again over cherished pages, the opportunity of identification with literary characters according to fancy, and the greater flexibility in adjusting reading to individual convenience and pleasure.¹⁷

¹⁶ "Library Radio Book Quiz Increases Distribution of Books," *Publishers' Weekly*, CXLII (July 18, 1942), pp. 160-61.

¹⁷ At present, literature written specifically for radio is being developed into a form to meet the special demands of this medium. It is true that that which is written for the ear is likely to be readable, whereas the converse is not necessarily true.

When the radio program has presented either a portion or a condensation of a piece of literature, children often want to read the entire work. Careful reading of the whole is especially to be encouraged when the work merits concentrated study. Having heard a broadcast before reading the piece may help the child to bring the material to life. The student may form images and develop an understanding which will sustain him in the face of possible reading difficulties or ennui. Listening may also lead to reading other works by the same author or books dealing with the same period or problems. Boys and girls often develop strong temporary interests in certain localities or individuals. If the literature which satisfies these interests is good, then there is no harm in these enthusiasms; they may be beneficial. Availability so often dictates choice of literature that it is wise to establish full cooperation with libraries, often providing extra copies of certain books to meet particular needs.

For more mature students broader units of follow-up work may be built around radio. An example would be the study of literature as an art related to music and painting. The theme of a story heard over the radio could be selected for further study. The Tristram and Isolde legend, for instance, could be traced in music, in poetry, in prose, and in painting. For still another follow-up activity the teacher might ask his students to write book sales talks for spot announcements for in-school broadcasting. These could be used as a variation of assigned book reviews. Minute spot announcements could appeal to popular interest in certain subjects, writers, situations, or books. The teacher could encourage his students to capitalize on the appealing qualities of books in their sales talks. This would constitute a novel type of book report and should also offer helpful practice in writing techniques.

As an example of the many different types of follow-up experiences, each growing naturally and gradually from the story, we might note the activities of a third grade class after they had listened to a transcription of "The Ugly Duckling."¹⁸ Besides reading other stories by Hans Christian Andersen and other stories about ducks, swans, and farm animals, and learning songs and poems about them, the youngsters began writing original stories and verses about ani-

¹⁸ Katherine Stasney, "An Adventure in Listening," *Journal of the Association for Education by Radio*, II (February, 1943), pp. 7-8.

mals. They also hunted down pictures, clippings, and illustrations to make a "nature study bulletin board." Some of the pupils were able to go to a near-by city to the municipal park to see some swans, and they reported on their experiences. To show their appreciation of the program, the pupils composed thank-you letters to the person who made the equipment and the recording available. Pupils also dramatized other Andersen stories and parts of "The Ugly Duckling." Some pupils illustrated the stories by making crayon sketches; others modeled characters from the stories in clay. Cooperatively, they painted a series of nine scenes from "The Ugly Duckling" in calcimine to be displayed in the school halls. The single program thus initiated countless other language and creative activities.

We may also cite the work of the Board of Education of the Chicago Public Schools in their program "Lady Make-Believe," a storytelling series designed for pupils in grades three, four, and five.¹⁹ Program VIII was "The Sleeping Beauty."

Here again is the well-loved story of the beautiful princess who slept for a hundred years because of a wicked fairy's curse, and the handsome prince who broke the magic spell and married the princess.

Word Study (words encountered in the broadcast). List, discuss meanings, and find synonyms for these:

nymphs	enchanted	dominion	accomplished
curse	briars	proclaim	legend
ogre	implements	distaff	spires
mantle of sleep	inhabitants	musty	spell (noun)

Character Lesson. Discuss: When someone says or does something to hurt your feelings, think twice before you get angry; sometimes he really doesn't mean to be unkind after all. Contrast Wicked Fairy's spite with Good Fairy's thoughtfulness and kindness.

Creative Expression. Redramatize the story or stage a mock broadcast; plan a shadow play or puppet show; make miniature figurines and stage setups or pictures of the outstanding scenes of the story: the banquet, the sleeping court, the princess's awakening, the wedding. Make portrait

¹⁹ "Lady Make-Believe Storytelling Program" (pamphlet), Radio Council, Chicago Public Schools, 1944-1945, LMP 6. This script was written by James M. Morris for "The Land of Make Believe," Oregon School of the Air, and presented by both WBEZ in Chicago and KOAC in Corvallis, Oregon. Mr. Morris and the Oregon School of the Air have granted permission for its reprint.

studies of the Wicked Fairy, the Princess, the Good Fairy, the Prince. Retell the story in original songs or rhymes.

Supplementary Reading

Brooke, Leslie: *Golden Goose* (Woome)
 Hutchinson, Veronica: *Candlelight Stories* (Cadmus)
 Beston, Henry: *The Fireside Fairy Book* (Cadmus)
 Carrick, Valery: *Picture Tales from the Russian* (Stokes)
 Pratt, Marjorie and Meighen, Mary: *Long, Long Ago* (Sanborn)
 Lankey, Rosemary: *Lonely Dwarf* (Holt)

In broadcasting for older students, similar activities may be used. In a unit concerning Jules Verne's *Twenty Thousand Leagues under the Sea*, the following procedures are suggested.²⁰ Take, for example, the episode where Professor Arronax and his group travel under the sea in a strange submarine and narrowly escape death in antarctic ice. In preparation for the broadcast the teacher might present some of the words, among which are:

Atlantic cable	imaginings
superhuman	marooned
salamanders	

The teacher may write on the board:

Jules Verne	Great Ice Barrier
Professor Arronax	Atlantis
Conseil	Nautilus
"The Scotia"	

During the broadcast the pupils would follow the progress of the craft, trace its course, and note the things which Verne guessed correctly. After the broadcast they would be encouraged to read books displayed on the library bookshelf, including *Snake Gold* by Harvey White, *Around the World in Eighty Days* by Jules Verne, and *A Connecticut Yankee in King Arthur's Court* by Mark Twain. To gain practice in writing and speaking and to stimulate further reading, the students would be encouraged to write and speak about what might happen to them from morning until night if they found themselves in the world fifty years hence.

²⁰ Chicago Public Schools program, found in *School Radio Scripts*, edited by Blanche Young, 1939, p. 34.

In order to make *Ivanhoe* more palatable, the children in a particular class were allowed to plan a broadcast of the famous tournament of the story.²¹ The youngsters enjoyed the experience immensely and displayed an increased interest in the book and new understanding of it. Third and fourth grade students in Chicago were so enchanted by a broadcast of "The Pied Piper of Hamelin" that they adopted it spontaneously as the basis of an assembly broadcast on health. After supplementary reading they presented a program on germ control by means of the elimination of rats.²²

Radio, of course, may lead to various kinds of reading. Excellent manuals often accompany programs. They may include reading references, short discussions of the authors, and accounts of the situations and the background of the information presented. These pamphlets are usually offered for the teachers, but they may be used by students.

Often neglected avenues of communication by reading are newspapers and magazines. As the cooperation between radio and press increases, the interdependence between them is intensified. The child should be led to understand that all three agencies of communication may be used together to obtain a complete picture of our world. Every avenue of communication is a path to information and a stimulus to the earnest desire for knowledge. If radio helps to accomplish this, it justifies all our claims and our aspirations.

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²¹ Geraldyn Delaney, "Special Broadcast," *High Points*, XIX (October, 1937), pp. 57-58.

²² "Radio in the Schools," Chicago Radio Council Staff, *Chicago Schools Journal*, XXI (March, 1940), pp. 220-21.

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Section II. POETRY

The last section on reading has considered the identity of words, their use as one means of communication, and the promoting of interest in reading in general. Special problems arise when we turn to special types of reading. It is not so difficult to arouse the pupil's interest, for instance, in an exciting adventure tale as it is in more serious material. Literature has many forms and each requires special attention. In this chapter consideration will be given to poetry. Poetry does not occupy so much of the child's reading time as does prose. The task of eliciting a pupil's interest in prose is largely dependent upon the subject matter. This is not true in the case of poetry, which is read more often because of esthetic appeal and expression than for information.

Radio and Appreciation of Poetry. Poetry appreciation is possibly one of the most difficult subjects to teach. Poetry has so long been associated with flowing locks and feminine mannerisms that it now is often a subject for ridicule by students. This stigma is sometimes most difficult for teachers to combat. It is curious that such a problem exists, for in their early years children love rhymes and songs and story poems, but somehow this traditional antagonism to poetry is planted in their minds and affects their attitude. Nevertheless, because there is a rich store of beauty and philosophy in the works of great poets, it is important to eliminate dislike of poetry and to cul-

tivate instead genuine appreciation. If poetry can descend from its pinnacle, if it can be humanized, if it can become a part of daily experience, it will then possess an appeal for children.

Radio is an instrument which can help to dramatize poetry, to give it warmth and expression, and to cut across apparent difficulties of form and understanding. Poetry is written to appeal to the ear as well as to the understanding. When a pupil enjoys listening to poetry and feels its emotional appeal, then he may enjoy reading it. After listening to poetry, reading aloud is a natural step forward. New pleasures are experienced both from listening and from oral repetition. Later the child may gain sensitivity to the beauty of words which he has memorized. He will thus learn to appreciate poetry, whether he hears it interpreted by others or reads it to himself. If the teacher can guide pupils through these progressive steps, he may succeed in building a solid foundation of appreciation for this literary form. Because radio programs and recordings may offer assistance, the teacher should be alert to pertinent broadcasts.

Regrettably, there is a current dearth of broadcasts or recordings of poetry suitable for elementary school children. Nevertheless, we must examine the inherent possibilities of radio and hope for their greater expansion. Certainly some noble attempts have been made in the past to promote poetry appreciation by means of the radio. Notable mention should be given to the Koralites, who have achieved popularity through their readings both on the air and in the assemblies of many eastern schools. They have fostered appreciation by acquainting the child with stories in verse. The series of the Koralites called "Stories in Rhythm" included amusing and entertaining arrangements of the more famous poems for young children. For example, the selections include "The King's Breakfast" (A. A. Milne), "Jabberwocky" (Lewis Carroll), "Christopher Robin" (A. A. Milne), and several nursery rhymes.²³

Specialists in child literature have also done much in developing poetry appreciation through radio. "The Singing Lady," long-time favorite of the very young, was particularly effective with simple story poems. Available recordings may have also created interest in poetry. Such selections as "A Child's Garden of Verses,"²⁴ "Paul

²³ Kenneth Hayden, "Choral Recitation on the Air," *Education*, LXII (March, 1942), pp. 419-20.

²⁴ "A Child's Garden of Verses," RCA Bluebird.

Revere's Ride,"²⁵ and "Winnie-the-Pooh Goes Visiting"²⁶ add great joy to the experiences of the young listeners. The humor, the simplicity, and the charm of these verses and rhythms are readily understood.

Dramatic poetry on the radio is especially well adapted to the teaching of appreciation to advanced elementary school pupils. The power of poetry is most strongly felt in stirring dramas presented in verse. Fortunately, radio drama as a new form often uses verse to present its best literature. Pupils enjoy MacLeish's "Fall of the City," Corwin's "The Plot to Overthrow Christmas," W. H. Auden's "Ascent of F6," and other spectacular works of the poet-dramatists. By listening to these dramas, pupils realize that poetry is not something archaic and antique but is rather a living art form which lends vivid expression to contemporary and stirring events. This is particularly apparent when one realizes the immediacy and impact of such timely poetry as "I'm an American," "Ballad for Americans," and the special panegyric for V-E Day, "On a Note of Triumph."

The techniques for presenting poetry on the air have been carefully developed. In addition to the simple readings, producers have used the voice choir and have combined poetry with music and sound effects, as illustrated in the Norman Corwin series, "Words without Music."²⁷ In this series the speech rhythms were cleverly employed for choral effects and augmented by a musical accompaniment. In fact, Corwin, an innovator with a vast understanding and appreciation of his medium, believes that the old, traditional forms of the presentation of poetry are outmoded and that radio can achieve much by combining verse with music to reveal new meanings and beauty.²⁸

One interesting experiment in the presentation of poetry over the air was undertaken by the Montclair State Teachers College in 1939-1940.²⁹ Each Sunday afternoon Professor Paul Nickerson read examples of poetry composed by local high school students. These

²⁵ "Paul Revere's Ride and Other Poems," Studidisc, *A Catalogue of Educational Recordings*, p. 37.

²⁶ "Winnie-the-Pooh Goes Visiting," Victor Records.

²⁷ Charles I. Glicksberg, "Poetry on the Radio," *Education*, LXII (October, 1941), pp. 92-93.

²⁸ *Ibid.*, p. 95.

²⁹ *Ibid.*, p. 93.

selections were well read and accompanied by excellent sound effects, and the resulting programs were most impressive. This type of program could be used to promote interest in poetry elsewhere and it could be adapted to the creative efforts of elementary school children. It would help dispel popular antagonism to poetry and perhaps inspire creative effort by other pupils. Such a radio program, whether actually broadcast or merely simulated within the school, may serve both as the inspiration for creative writing and as a medium for presenting it.

National poetry programs are usually addressed to adults, but they may very often be enjoyed by children. This is true, certainly, of much of the work of Ted Malone. He is concerned with human-interest themes with personal appeal or humor, which naturally interest children. Whether one admires Mr. Malone or not, one must admit that he has accomplished a great deal in popularizing poetry and verse by his broadcasts. One of his series, "Pilgrimage of Poetry," was an exceptionally fine program. In this series Mr. Malone took his listeners to the shrine of a famous literary figure, told about the writer, read from his works, and described his surroundings. This was both a popular and a valuable method for engendering interest in poetry and poets. Another program for national release is "Words and Music," which combines the reading of poetry with the presentation of vocal and instrumental music. Available six mornings a week, this program offers standard and beloved works in verse and music.

One of the English series offered by WHA (University of Wisconsin) was a program entitled "A Poet Looks and Laughs."³⁰ The emphasis was placed on humorous selections, giving conclusive proof of the sensitivity of poetry to all the moods of human experience.

Over the University of Iowa station (WSUI) a program was presented which included readings from the classical writings of the Greeks and Romans.³¹ The major portion of the presentation was in poetic form. Although this material is too advanced for the average elementary school pupil's understanding, there is material written by ancient poets, especially legendary material, which can be adapted

³⁰ *Radio in the Classroom* (University of Wisconsin Press, 1942), pp. 123-24.

³¹ D. S. White, "Broadcasting the Classics," *Classical Journal*, XXXVI (April, 1941), pp. 401-12.

for the elementary school. These ancient writings demonstrate the intensity of the dramatic situations, as well as the beauty and the majesty of poetry.

When possible, it is often helpful to have the poet appear on the air. In fact, many contemporary artists have contributed by broadcasting and by making recordings. Since the programs which include appearances of poets are sporadic and rare, the teacher should consider the use of electrical transcriptions. Kimball Flaccus undertook a project in which he had twenty-eight poets make recordings of their own and other work.³² Both Harvard and Columbia universities also offer transcriptions by poets. Unfortunately, most contemporary poetry is on the adult level and unsuitable for the lower elementary grades. Notwithstanding, it is possible to introduce some judicious selections for the upper grades.

On the whole, teachers will find more assistance from the use of the recordings of the traditional types of material. Records have been made of many of the poems which are part of the cultural heritage of every child. There are several series from which selections may be made: "Masterpieces of Literature," Volume I, "The Appreciation of Poetry," with readings by Norman Corwin; Volume III, "Great Themes in Poetry," with readings by Basil Rathbone; "The Voice of Poetry," Volume I, with Edith Evans, Volume II with John Gielgud.³³ Included in these albums are selections from many of the distinguished poets: Wordsworth, Shelley, Keats, Herrick, Thomas Hardy, Shakespeare, Ben Jonson, and John Masefield, for example. The selections include such classics as "Ozymandias," "Upon Westminster Bridge," "She Walks in Beauty," "A Child's Grace," and "Sea Fever." Such poetry should delight both child and adult. Of course, the teacher must exercise great discretion in choice and preparation and in follow-up activities, but the experiences of hearing good interpretations of the classics may dispel antagonism for poetry and establish a lifelong appreciation of it.

There are other programs over the radio devoted to the reading of poetry. The number is small, however, and the material presented is not always suitable for the very young listener. Seldom is it adaptable

³² Kimball Flaccus, "Adventure in Poetry: Recording the Poets," *Quarterly Journal of Speech*, XXVIII (October, 1942), pp. 315-23.

³³ More detailed information regarding these series may be found in the *Columbia Records Catalogue*, 1947, pp. 102-03; 105.

to in-school use. In-school use would certainly promote an appreciation of poetry in the child's out-of-school life. Teachers should ask for an increase in the number of broadcasts which can be used to encourage poetry appreciation. The immediate responsibility of teachers should be to utilize such programs as are afforded by radio and radio aids. The teacher's goal should be to help the child to establish a taste for poetry which may be significant in his life. Radio can help to achieve this goal.

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Section III. DRAMA

Drama as a Language Art. Radio drama has achieved such tremendous popularity with both children and their elders that a teacher need hardly exert himself to develop an interest or appreciation for it. Drama, whether in the movies, on the stage, or in books, always impresses children. The problem of alert educators is to encourage more than the mere auditing, or observing, or reading of plays by constantly providing attentive, discriminating, intelligent interpretation of the meaning of drama as related to everyday life. Since drama is ubiquitous in literature and life, a true appreciation of it is a bridge to the study of society. It is through the intelligent use of

eyes and ears trained to the appreciation of the fundamental dramatic values that pupils may later achieve their future social development.

It is well, even in the elementary grades, to observe some of the intrinsic differences between radio drama and stage and motion picture presentation. This study should not be considered from the professional point of view or with a view to a thorough investigation of psychological implications. Teachers should direct this study with the idea of helping children to understand the requirements of each medium and to build a set of criteria so that they can appreciate all forms of dramatic offering.

All Types of Dramatic Literature Offered by Radio. The list one could compile of the excellent dramatic fare which has been offered by radio is almost endless. Great plays, Pulitzer prize plays, Broadway hits, and literary classics, dramas written especially for the radio and those merely adapted to its use — all have been brought to radio listeners in abundance. Time-revered classics may be presented; the dramatization of the life of a hero who departed that very day may be offered; the past, the present, or the future may be brought to life. The history of the fight against yellow fever may occupy us at one time. Another day may present a script on contemporary health problems. Radio drama has been used most effectively in keeping American children and adults in touch with questions of war and of peace.

The United States Office of Education offers, either for purchase or loan, many excellent electrical transcriptions of significant dramas on current questions and problems of our cultural background. Topics range from studies of agriculture to a trip to the dentist.³⁴ The use of the techniques of drama allow radio broadcasters to bring the speech, the mood, the mores, the color of present and past to their audience.

Regrettably, there has been a tremendous amount of poor and unreliable material broadcast as radio drama. In fact, the balance swings well to the side of the trivial and maudlin in the average dramatic offering. Most daytime serials for adults and children and the average half-hour and hour shows are hardly the best literary

³⁴ *Transcriptions for Victory Catalogue*, Revised Edition. (Educational Radio Script and Transcription Exchange of the Federal Radio Education Committee and the United States Office of Education, 1946). See also *Radio Script Catalogue*, 5th ed.

fare. We do not condemn the idea, the purpose, or the form of these dramas; the difficulty lies in the apparent failure to accept the responsibilities incumbent upon a producer today. As a rule, the quality of the dramatic productions, the performance, the interpretation, and the sound effects are superior to the material presented. The commercialism of radio is often blamed for this flagrant failure to present a consistently high quality of dramatic literature. One of radio's finest poet-dramatists, Norman Rosten, explains the difficulty by saying that in order to appeal to the masses radio literature must be directed to the lowest common emotional denominator. Radio writing is simply an adjunct to advertising, he claims. In order to counterbalance this situation, Mr. Rosten recommends, among other things, a noncommercial half-hour network program each week on which original dramas either in poetry or prose may be presented.³⁵

Radio as a Medium for Drama. Radio can make drama vital and real. Although movies are generally available, few people have had the opportunity to see many legitimate plays. Seldom do we have an opportunity either in movies or plays to see the famous classics of our heritage. To read them is a poor substitute, at least until the child is able to visualize action as he reads and is able to overcome the confusion of the printed form. Plays were written to be produced rather than read and studied. There are rather frequent presentations of famous and important plays over the radio, and these have been recorded to be used by teachers for demonstration. Recordings of scenes and acts from Shakespeare's plays are the most readily available of dramatic literature. Maurice Evans, Judith Anderson, and supporting players offer the major scenes from *Macbeth*.³⁶ Otis Skinner and his daughter Cornelia present an album of many of the famous scenes from Shakespeare's plays.³⁷ The Studidisc company has a series of recordings of many scenes, including famous incidents from *Macbeth*, *The Merchant of Venice*, *A Midsummer Night's Dream*, and *Hamlet*.³⁸ Other plays by Shakespeare are available from

³⁵ Norman Rosten, "Let Writers Write," *New York Times*, July 9, 1945.

³⁶ "Macbeth." A Recordrama of scenes from Acts I, II, III, and V. Album DM 878, Victor Records.

³⁷ "Scenes from Shakespeare's Plays." Otis Skinner, Cornelia Otis Skinner. Album M-753, Victor Records.

³⁸ "Excerpts from Shakespeare." Studidiscs. See J. Robert Miles, *Recordings for School Use* (World Book Co., 1942), p. 115.

the several recording companies. Dramatization from the Bible also merits attention: "Jacob and Rachel," "Jacob and Esau."³⁹ In the near future there will undoubtedly be a considerable increase in both the amount and variety of drama recorded. The teacher may look to recordings as well as to radio as a means of bringing great dramatic literature to his pupils.

Radio drama is peculiar in that it requires its listeners to supply background and atmosphere. Radio writers are consummately clever in supplying hints and in suggesting descriptions of the scenes and characters portrayed, but the responsibility of integrating sound with visualization lies with the audience. This is, as a matter of fact, very good exercise for the imaginative powers and offers a real benefit rather than a drawback to those who listen. Moreover, because there are no real limits imposed on the imagination, the medium is well adapted to the presentation of the fantastic. It is often difficult to represent some products of sheer imagination on the stage. Individual visualizations of Tinker Bell and Peter Pan in J. M. Barrie's beautiful fairy tale may differ. Older children may argue about the appearance of Caliban and Ariel in *The Tempest*. *Alice's Adventures in Wonderland* offers infinite possibilities to the imagination. Radio leaves the mind free to roam among its own pictorial fantasies. With the advent of television on an extended scale this aspect will be more limited, and the listener will sacrifice some of the imaginative experience that radio now offers. He will be accepting visual interpretation of objects created by someone other than himself.

We might note in passing an experiment undertaken by Harlan M. Adams.⁴⁰ As part of the student radio production of the Welles script of "The War of the Worlds," he attempted to augment the impact of the story by visual means. On a white wall in front of the student audience he played colored lights, using them to heighten the emotional effect of the narrative. He concluded that the use of these lights as an auxiliary enlivened the entire experience. In this instance the pupils were still required to form their own visual images of actions and characters but were also presented with a visual focus in keeping with the mood and meaning of the story. Such an experiment

³⁹ "Jacob and Rachel" and "Jacob and Esau," *Educational Recordings*, Recordings Division, New York University Film Library (New York, 1944), p. 30.

⁴⁰ Harlan M. Adams, "Visual Appeals for the Radio Audience," *Quarterly Journal of Speech*, XXVII (February, 1941), pp. 25-27.

is worth consideration by the teacher attempting to secure maximum results from fanciful radio dramas. This demand on the imagination is not a new thing. The audiences which jammed the galleries to see the plays of the Elizabethan writers were required to supply their own stage settings without the aid of costumes and lighting.

Many Techniques for the Use of Drama. Radio units on drama are usually designed for special speech classes in secondary schools and colleges. Likewise, radio production and radio workshops are projects best undertaken by high schools and colleges. There are, however, occasions for pupil broadcasting in the elementary grades, which will be discussed in the chapter on in-school broadcasting. There are countless activities in which pupils might participate in radio drama. Besides the importance of promoting reading and judgment abilities, the study of radio drama should help to make pupils aware of further possibilities to be explored. Radio scrapbooks on drama may be assembled; bulletin boards may be used, or reviews and criticisms published in the school newspaper. Pupils may be inspired to read further about authors, and learn more about the background and the characters portrayed in certain plays.

Nor should the area of criticism be neglected. It is good for students to examine and analyze the good or bad qualities displayed in a radio drama. In Lewiston, Idaho, a group of students met once or twice a week at some pupil's home to listen to a radio play. They later engaged in critical discussion of the content, presentation, meaning, and implications.⁴¹ This proved to be a valuable experience for the participants, accomplishing significant results in critical listening and in discussion techniques.

The Orson Welles-Mercury Theatre recordings of *The Merchant of Venice* and *Twelfth Night* have been very popular. A survey was made by the National Research Council's Committee on Scientific Aids to Learning to show the value of these recordings in English classes in twenty-five localities of different sizes in different parts of the country.⁴² The results indicated that pupils of varying intelligence levels profited by these recordings, showing consistent gains in mastery of dramatic content, understanding, and appreciation. The

⁴¹ Lola Berry, *Radio Development in a Small City School System* (Meador Publishing Co., 1943), p. 31.

⁴² Walter Ginsberg, "How Helpful Are Shakespeare Recordings?" *The English Journal*, XXIX (April, 1940), pp. 289-300.

recordings helped the pupils to follow the plot and visualize the characters, the action, and the details of stage business.

Doubtless recordings should be played twice, both before and after the study. The instructor should clear up major language difficulties, furnish essential information to establish mood and atmosphere, *then* play the recordings. The specific reading and study should follow. Then should come a replaying of the records as a summary. Later, texts should be used to supplement understanding of any drama.

How Study of Drama May Contribute to Social Studies. Any teacher, no matter what his specialized subject, is also concerned with the fostering of principles of sound citizenship. Certainly the study of drama as a form of literature offers ample opportunity for this type of teaching. There are excellent radio plays, radio scripts, and electrical transcriptions dealing with almost every aspect of our democratic civilization and world culture. Almost every type of problem and every area of subject matter may be brought to life through dramatized presentation. Even the most brilliant methods and devices, however, may be dulled by repetition.

Let us consider for a moment the vast panorama of material available through radio drama. Significant in promoting greater tolerance and understanding of our land and our peoples is the series "Americans All — Immigrants All," which describes the contributions of those who came to our country from many lands.⁴³ A similar series of value in promoting tolerance is "I'm an American."⁴⁴ "Freedom's People" is a series of dramatized educational programs telling of the contribution of the Negro to American life.⁴⁵ Ideas abound, but the teacher must be alert to introduce them and interpret them to his pupils.

Radio Drama Reflects Changes in Progress. Sherman Dryer makes the point that prior to Pearl Harbor much of our radio drama was escapist.⁴⁶ Since that time, however, he believes that radio drama tends to deal more and more with our nation at war and peace and

⁴³ *Transcriptions for Victory Catalogue*, Revised Edition (Educational Radio Script and Transcription Exchange of the Federal Radio Education Committee and the United States Office of Education, Bulletin 202, p. 31). See later editions of the *Radio Script Catalogue* for additional material.

⁴⁴ *Ibid.*, p. 29.

⁴⁵ *Ibid.*, p. 36.

⁴⁶ Sherman Dryer, *Radio in Wartime* (Greenberg Publishing Co., 1942), p. 207.

with its new role in international affairs. We may consider the message and value of Carl Carmer's "The American Scriptures," which formed part of the intermission between numbers of the musical presentations of the New York Philharmonic Orchestra programs during 1943 and 1944. Certainly these should help either the juvenile or adult listener to appreciate our heritage. Mr. Carmer and Frank Callan Norris, *Time* Radio Programs Department director, are co-authors of a series of radio dramas designed to present America's history in an easy, fluent manner by means of simple dramatized discussions between two fictional characters, a businessman and a librarian.⁴⁷ "The World and America," as the series is entitled, traces the early history of our nation up to its emergence as a world power and also discusses the new responsibilities incumbent on it.

A concealed educational purpose, that of fostering greater understanding of our Latin American neighbors, served to inspire the series "The Sea Hound." The writers worked in close cooperation with the Office of Coordinator of Inter-American Affairs, which published colored maps of Latin American countries distributed to children as part of this program.⁴⁸

Once again we note the flexibility of radio fare and its role in keeping us in touch with the changing world and in making the youthful listener aware of the scope of his participation in it. A significant part of language arts, radio can realize its full importance only if it creates a genuine appreciation of drama as a cardinal means of human communication throughout the ages. With its ability to delve backwards into time or to venture forward into the world of fantasy and the future, radio drama can span all human experience.

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⁴⁷ "History on the Beam," *Time*, XLIV (August 14, 1944), p. 50.

⁴⁸ K. G. Bartlett, "Radio War Programs," *Quarterly Journal of Speech*, XXIX (February, 1943), p. 102.

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Writing

AFTER THE CHILD learns to speak and to read, he learns to write. He may learn the skills of penmanship, forming simple words and sentences while he is developing other language facilities, but the ability to write easily and fluently is usually developed after the other language arts are established. By writing the child utilizes the ability and the background he has acquired by speech and reading and opens for himself a new means of communication. Because written expression usually grows out of free and uninhibited oral expression, it is important that the background in speech be stimulating and inclusive.

Written Expression Fostered by Radio. As in the case of oral training, composition as a subject should not be separated from other activities. It may spring from the most remote and imaginative story or the study of the most trenchant social problem. The area of subject matter should be unrestricted, and the child should not be inhibited by stereotyped rules of grammar and rhetoric. In this situation, radio plays its greatest role as a stimulus to thought which precedes written composition and as an impetus to self-expression and research.

In our consideration of writing as an art allied with language, we shall discuss first the skills, later the mechanics of writing: handwriting, spelling, vocabulary, and grammar. All must be mastered in order to clarify the art of communication. Finally, we shall consider radio as an aid to writing.

Interest in Handwriting Motivated by Radio. Penmanship is an early obstacle for the young pupil. Although handwriting does not receive the strict attention or the arduous hours of drill once demanded by artistic perfection, and although shortcuts to writing are furnished by shorthand and the typewriter, handwriting still remains an important skill. While instruction normally comes from the teacher, the radio lecturer can frequently offer encouragement and stimulate interest in this work. At WBOE, the Cleveland Board of Education station, there has been an elaborate series of broadcasts

presented to the sixth grade classes of the city.¹ The program consisted of sixteen lessons, ten lessons devoted to the dramatic story of handwriting and six lessons to actual instruction in penmanship. The series included discussion of the history of writing, the development of writing materials, and the instruments used. This material was accompanied by the projection of slides showing pictures of the Rosetta stone, Portuguese manuscripts, ancient writing implements, and other relevant items. The pupils analyzed various types of manuscripts and writings, took speed tests on their writing, kept a score sheet on which to record improvement, practiced and diagnosed their own handwriting, wrote letters — in fact, engaged in a multitude of activities allied to the study of penmanship. This method combined the diagnostic, the individual, and the remedial approach. The master teacher provided the lecture material, but the classroom teacher was responsible for pupil activity in order to help the pupils overcome difficulties and improve their work.

A single broadcast (February 12, 1945) in the 1944-1945 program of "Science Frontiers" of the American School of the Air series was devoted to typography. It traced the history of writing from the picture words left by primitive man to contemporary printing machines.

Such elaborate programs, designed specifically to teach listeners the history and the significance of handwriting, are rarely available to the average teacher under present broadcasting conditions. If, however, the widespread plans for frequency modulation stations owned by school boards and cities are realized, it may be that more of this specialized teaching by radio will be given. Just now there are few if any programs devoted to the dramatization of handwriting. If information which relates to penmanship is included in future broadcasts, it will be up to the teacher to call it to the attention of pupils.

Perhaps the best approach to the problem of eliciting interest in penmanship is to foster the idea that it is a necessary tool of communication. Anything which may add interest to this subject should be used as a stimulus. If, for example, the pupils are listening to a broadcast about history, the teacher may point out the time when a

¹ *Report of Radio Activities, 1938-1939, Station WBOE* (Cleveland, Ohio: Board of Education, 1939), pp. 52-53.

particular type of handwriting or printing was in use. The study of the background for the discovery of America might include mention of 1450 and the Gutenberg press with its movable type. It should be emphasized that with the advent of each mechanical device for recording writing the need for penmanship and handwriting decreased. Still, pride in the beauty of the craft remained. If the teacher can correlate changes and progress in historical events with writing and other skills of communication, he will be greatly benefiting the training in writing.

Radio an Aid to Spelling. The study of spelling is more likely to find specific and direct alliance with radio programs. It must be understood that spelling involves conventional character symbols adopted by men as symbols of written communication. It is a skill which must be drilled to perfection. Necessary drills and corrections should be made exciting rather than reduced to drudgery. As in the case of other skills, spelling presents individual problems for each pupil. This must be considered in the use of radio.

Perhaps the most effective instruction in spelling is that which comes by way of other lessons. This involves the learning and memorizing of words which one assimilates incidentally. Definition and spelling must be mastered together so that words are learned in context. Many times teachers' manuals accompanying certain educational broadcast series list words to be learned in connection with each lesson. For example, lesson books sent out to accompany the Standard School Broadcasts italicize new words to be learned for ready reference and emphasis.² A teacher preparing to listen to any given broadcast may write on the blackboard some of the words likely to appear in the program. Then the pupils write, pronounce, and spell them. An image of both meaning and spelling will be evoked by hearing these words during the broadcast. Almost all schools relying upon in-school use of broadcasts designed specifically for the classroom use this method in relation to at least some subject areas.

Although they are considered dated, because of the limited participation of any one pupil, spelling bees have retained popularity. Some radio programs have been built around the idea of spelling competition. Even as early as 1925 there was a coast-to-coast series

² See current teachers' manuals issued for this series.

of spelling contests sponsored by the *Courier-Journal* of Louisville, Kentucky.³ In this series there were representative spelling teams in a dozen or more cities, every radio station having a team of ten grade-school spellers. Prizes were awarded to the best spellers in the regional and national contests. Although exciting, this type of activity has very little real educational value. It does have some motivating value, however, for it directs attention to accurate spelling. It places a premium on knowing, on being correct. Such contests also arouse competitive interest among pupils. Teachers may occasionally wish to use spelling bees in in-school broadcasting and may direct attention to any such programs heard over the radio.

WBOE is a station offering an elaborate program for teaching spelling with the aid of radio and the use of a master-teacher plan. The effect described in the station's report for 1938-1939 tells of fifth grade spelling taught by radio. It is a sample of the methods it employs for all its broadcast work in teaching spelling. The intent was to develop desirable habits in spelling and to arouse interest in words, meaning, and usage. In broadcasting these lessons, the master teacher allows the students to see the words on classroom blackboards and lesson sheets; they hear them; they write them. The teacher directs the children in pronunciation, the use of the words in sentences, and the grouping of the words according to phonetic similarities or difficulties. Any silent letters, unusual combinations, or deviations from the normal are given special emphasis. Words which the pupil misses in the tests, also administered by radio, are labeled "problem words" and receive special attention and study. Many activities follow the broadcasts. Prizes are given for discovering similarities between words, finding smaller words within the larger, filling in completion exercises with words emphasized during the lessons, using the dictionary for determining accents, alphabetical order, antonyms, compound words, definitions, and derivations. The results of tests given at the end of each week are kept on individual and class graphs in order to determine progress.⁴ This type of broadcast unit may be given regularly once a week, followed by daily periods of study and reference.

This type of systematic, specifically designed approach to the

³ *Journal of the National Education Association*, XIV (December, 1925), p. 294.

⁴ *Report of Radio Activities, 1938-1939, Station WBOE*, pp. 46-47.

problem may be available only to those within particular areas. Many of the activities described may be adapted to any broadcast heard as part of in-school work or home listening. Even in the Cleveland unit, it is not the specific broadcast which is so helpful but rather its utilization. This is true in all types of radio programs used for education.

Vocabulary Allied to Radio. These techniques and these goals apply equally well to vocabulary building. Fortunately, vocabulary seems to be more easily assimilated than spelling. The acquisition of words and their meanings begins early in the child's use of the language arts, for it has a direct and vital link with his assimilation of culture and his own mental growth.

One must realize, too, that we have not just one vocabulary but rather a series of vocabularies. There is a special terminology for every given subject area, and it is important to build and augment these vocabularies. Words familiar to children must be used first, and then new words should be introduced carefully as they are helpful to the further understanding of an idea. The teacher should make every effort to impress those words selected. They should be pronounced, spelled, written, defined, and then used in oral and written expression by the students themselves.

Radio is dependent upon the exact and vital use of words, and it offers ample proof of the effectiveness of the *bon mot*. To compile a list of new, familiar, or effective words heard during the course of a single broadcast is simple, no matter to what subject those words pertain. The teacher may introduce a unit on vocabulary building by suggesting that pupils compile lists of interesting, illustrative words learned while listening to a radio program. Similarly, lists may be compiled in connection with programs introduced into the classroom. Moreover, any writing which is done in class or for class assignment should have some attention focused on clear and meaningful word usage. Inasmuch as radio depends on written expression, it should serve as a prime and varied example of adequate and inadequate writing.

The Relationship of Grammar to Radio. As for grammar, the theory is that pupils should strive for lucidity rather than mere grammatical correctness. The teacher should attempt to illustrate this axiom and to establish the idea that written expression must follow certain rules

if it is to be clear. Children will use those expressions they hear at home, on the playground, in the streets, and over the radio. Some educators advocate that while children are growing we should accept whatever language is the vernacular of their community, since as the child matures he will develop impulses to speak correctly. The teacher can then concentrate on one or two of the most flagrant errors of speech and grammar as basis for drill. When such errors have been corrected, the teacher may then concentrate on the elimination of others. Thus there is no direct teaching of grammar by means of rule and drill. Proper speech grows out of spontaneous expression. If we accept this theory, then we can expect radio to offer direct training only as it inspires and motivates purposeful verbal expression.

The language heard over the air is controlled by professional writers. The producers responsible for the broadcasting of guest speakers may also exercise indirect control. Since radio offers a model of language patterns, those active in the writing of material for broadcasts must be aware of their grave yet stimulating responsibility to those who listen. Although some of the language heard on the airways is atrocious, there are many excellent examples of powerful and dynamic expression. Because radio brings the child in touch with people of all nations, cultures, occupations, and environments, it offers the opportunity to learn both language and grammar in their various forms. The child at school or at home may hear the brilliant declarations of such a master of language as Winston Churchill, the flamboyant language of spectacular newscasters, or the simple, sincere, colloquial words of the man in the street. The child may hear housewives, scientists, artists, storekeepers, people engaged in every walk of life, expressing their thoughts by means of different language patterns.

Some radio speakers talk down to children not only in their ideas but also in their language. Other program producers seem to think their programs will be more popular if the radio characters use the poor grammar to which at least a portion of the listening audience is accustomed. This talking down, however, seldom makes a character more appealing and certainly sets a bad example. If an illiterate character is a necessary adjunct to the script, he should be offset by characters who speak correctly.

The most effective way to teach grammar is to approach it from

the point of view of necessary clarity. As Sterling Fisher says, in speaking about the educational aims and practices of CBS, formal grammar is almost impossible to teach over the air.⁵ It is true that WBOE gives grammar broadcasts, but on the whole grammar must be taught by the classroom teacher with only incidental aid from radio.⁶

In turning from the skills of writing to other subject areas, we must recall that writing is really a creative art as well as a language art. This is true in some measure of all language arts; they have much in common with creative arts because both involve esthetic experience and the urge for self-expression. Radio offers more to the arts than to other divisions of education, perhaps, in its capacity to afford inspiration and a wide panorama of experience beyond that arising from direct teaching and restricted assignments. No one can teach self-expression; one merely offers opportunities and stimuli. Judiciously utilized, radio programs may offer these benefits.

Radio may introduce its listeners to many new realms of thought and adventure. To the teacher who is hoping to inspire new ideas for written and oral composition, radio programs offer a magic key. Children enjoy writing about impressions they have had while listening to music, about further imaginative adventures of some favorite radio character. They may want to write letters to the company or to radio writers, thanking them or criticizing them for certain broadcasts. A class booklet may be prepared by the pupils to summarize their interest in radio. It may contain such items as remarks on the correct use of English, identification of famous characters by means of "Who Am I?" games, ideas for writing stories and poems, and other incidental details. Actual or mock broadcasts may serve as a goal for pupil interests.

No one focus of expression need receive all the class's attention. There can be radio plays, announcements, commentaries, newscasts, debates, forums, introductions, and discussions. If the widespread

⁵ Sterling Fisher, "Columbia's School of the Air of the Americas as an Aid to English Teachers," *Radio and English Teaching* (D. Appleton-Century Co., 1941), p. 159.

⁶ In the academic year 1943-1944 WBOE presented a series entitled "Did You Hear It Too?" In this series two dramatic episodes, in which grammatical errors were made, were presented on each broadcast. A panel of students of the junior high school level identified, corrected, and discussed the mistakes. See "Current Programs Presented by WBOE, 1943-44," unpublished bulletin issued by the Cleveland Board of Education.

use of FM is ushered in as prophesied, there will be openings for actual broadcasts by a reasonably large number of pupils over FM stations. There is no limit to the benefits of radio in relation to writing as a language art.

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Foreign Languages

TO STUDY a foreign language is to extend one's acquaintance with the language arts. Fortunately, when the student is ready to learn a foreign language, he has a background for his new skill. He can transfer many of the skills he has acquired in his own tongue to the cultivation of the new one. Learning a foreign language is an important way of broadening his contact with the world. It is the main road to appreciation and understanding of other cultures. Gone are the days when its pursuit was for esoteric rather than functional reasons, when one merely acquired a language for the sake of erudition.

Foreign Language in the Lower Grades. Although sometimes offered in the upper elementary grades and occasionally attempted in the lower grades, foreign languages are not included in most elementary school curricula. In New Mexico, however, Spanish is taught in the elementary grades.¹ In Texas the study of foreign languages is available to every grade from the third on. It is difficult today to foresee future trends when so many philosophies of education are being re-examined in the light of a changing world. The authors believe, however, that there may well be an increase in the study of foreign cultures and languages at every level of education. The states bordering Mexico are apparently finding the teaching of Spanish profitable. Certainly with today's accelerated travel and communication, the knowledge of many different tongues should be an asset to international relations and to the increased numbers who will travel the globe.

Even if the actual study of a language is not undertaken at an elementary level, preparations for such study may be commenced in the early years of school life. The teacher may point out the many words of foreign origin in our speech and explain how words are borrowed from one nation by another to become part of the language heritage of new groups. He may also explain why particular types of words and phrases belong to special professions and regions. Inasmuch as

¹ In the larger school systems radio broadcasting is sometimes used in foreign language instruction.

radio brings personalities from every nation into immediate contact with their listeners, it offers an effective introduction to such elementary training in semantics.

For many years one of the first languages to be studied was Latin. For many a youngster, Latin bears the odium of being "dead." It may not seem to merit a place in a world of rapid change. In order to prepare the way for the study of Latin, the elementary school teacher may work to dispel the antagonism against Latin by showing how very much alive it is. To do this he may select various words heard on any radio program and point out how many of them draw their meaning from the Latin mother tongue. The American Classical League prepared an interesting series on patriotism showing how much we may learn from Latin. After Pearl Harbor it presented a series entitled "America at War" which compared Hitler's campaigns with those of Caesar, and Roosevelt's speeches with those of Cicero. This series was broadcast to those schools in the New York City area by WNYC, and recordings and mimeographed copies were made available.² Such programs illustrate the intimate relationship between an ancient language and current problems.

World War II and the Study of Foreign Languages. Wartime education programs used for the indoctrination of trainees in military service have given considerable emphasis to foreign languages. New methods of teaching these languages in an amazingly accelerated manner have influenced older ideas regarding the techniques of teaching languages and the time required to assimilate a speaking knowledge of them. Of course, these concentrated courses were devised for adults and not for children and were presented in a more concentrated form than is possible in the ordinary elementary school. Nevertheless, emphasis upon the functional aspects of language learning should have important repercussions. Moreover, the new accent upon aural training in acquiring a language should significantly affect our teaching methods. New techniques may be adapted to radio education.

Methods of Direct Teaching. Since the beginning of educational radio, there have been attempts to utilize broadcasts directly as a means of teaching modern languages. Most of these experiments

² Morris Diamond, "The Oldest and the Newest," *Journal of the Association for Education by Radio*, II (December, 1942), p. 6.

have been fairly successful. They have minimized grammar and have emphasized pronunciation, readings, and simple dictation.³ Most instructors using radio have felt that the lessons need not include material which the students should acquire by use of a grammar and a dictionary, but that the emphasis of broadcasts should be upon pronunciation and language in use. This is a recognition of the functional method.

Many different languages have been offered by various stations over a number of years, but the emphasis has been for the most part on French, German, and Spanish.⁴

Over a local station the University of Oklahoma gave a series on Spanish in 1938-1939 to supply the language needs of any interested citizen and serve as supplementary material for schools.⁵ The method used might be adapted for any radio series. The instructor announced the station in English, then read the Spanish text selected for the day, first slowly, then more rapidly and conversationally. Any problems based on the text were then answered, no English being used in these explanations. Next, any necessary formal grammar was explained briefly in English, and additional examples were listed as they were required for further clarification. All this material was presented simply and nontechnically. Following this, exercises were assigned, so arranged that the listener might correct errors in his prepared work. The most frequent method was translation from English into Spanish to gain experience with composition. Occasionally dictation was given from material selected from previous lessons so that the pupil might correct his work later on. Listeners were urged to write in for additional information regarding problems encountered.

This type of radio training in language requires considerable home study and preparation and is dependent upon reading aloud for

³ We may note the early work of Robert Fouré at Ohio State University. As part of the French lessons via radio he read plays in French, asked questions regarding the material, and explained significant portions of the grammar. He considered the special benefit of his lessons to be in giving good models for pronunciation and intonation. F. H. Lumley, "Le Radio Parle Français," *Educational Research Bulletin*, XI (February, 1932), pp. 66-69.

⁴ According to a survey of stations offering work in foreign languages, it is found that French, German, and Spanish are most frequently taught by means of radio. Italian, and even Lithuanian, have been offered, however. E. F. Engel, "The Broadcasting of Modern Foreign Languages in the United States," *Modern Language Journal*, XXII (May, 1938), pp. 626-28. The Linguaphone Institute offers recordings for aid in learning virtually every modern language in common use: Dutch, Finnish, Russian, Arabic, Czech, Greek, or Esperanto.

⁵ Stephen Scatori, "Spanish by Radio," *Hispania*, XXIV (February, 1941), pp. 61-64.

correct pronunciation. Study of formal grammar is always in terms of answering questions which arise in regard to the acquisition of the new tongue. The teachers of the University of Oklahoma language department believe a thirty-minute period is ideal for this type of instruction. This radio instruction would of course be of interest only to the upper grades, possibly the seventh and eighth.⁶

One of the most recent attempts to teach Spanish by air is that suggested by *Time* and *Life*, Incorporated, and undertaken by the splendid, progressive station, WQXR, New York City. Entitled "Let's Learn Spanish," it was a lively adventure series in idiomatic, colloquial language, with conversations between two characters, Joe Bishop, an American, and his Spanish-speaking friend, Pepe Obispo. The series, including only practical, conversational Spanish, could begin with any program, and served to promote interest in the language as well as to provide a rudimentary knowledge of it. It offered an opportunity to acquire a simple vocabulary and to hear the language spoken without pedantry. A booklet containing the lessons was made available to the listeners for a small fee. According to *Time*, a number of New York state schools adopted the lessons as part of their curriculum.⁷ This program proved so popular that CBS offered it for network release.⁸

Use of Recordings. Such programs as those described above may not be available for in-school listening, but they can be valuable for supplementary listening. Another tool for the language teacher is the use of recordings. These offer expert pronunciations, language in use, plus introductions to plays, books, stories, and real life situations, and they broaden the pupil's cultural knowledge of foreign peoples. In the elementary grades it is especially important to offer interesting, vital information at the beginning of each foreign language lesson in order to maintain interest. Recordings may well answer this need.

⁶ Courses in elementary Portuguese, German, and Spanish are currently being offered over WNAD, the University of Oklahoma radio station. WSUI, the station of the University of Iowa, presents "Elementary Spoken French" and "Conversational Spanish for Beginners." WBOE (Cleveland Board of Education) offers "Elementary French 1 and 2." The Board of Education of New York City offers, over WNYC, "Spanish without Tears." This radio course is designed to teach conversational Spanish by means of the direct method and a dramatized serial.

⁷ *Time*, XLI (January 25, 1943), p. 51.

⁸ "Let's Learn Spanish," *Journal of the Association for Education by Radio*, III (January, 1944), p. 9.

Several different recording companies offer a series on various contemporary languages. For example, Decca presents a Spanish course by means of sixteen episodes of a light mystery drama, *Las Aventuras de Roberto Martin*. The recordings are accompanied by the text, along with notes, grammatical explanations, and self-help exercises. Many companies, RCA, Linguaphone, Hugophone, Encyclopaedia Britannica, and others, offer instruction in several languages by means of conversations, simple dramas, storytelling, and travelogues. By listening to experts converse in their native tongues, the pupils become acquainted with the idiom and the rhythm of foreign speech. The recordings may be most effectively used with textual and visual aids. These help the students to identify the "look" of the word as they hear it, so that listening experience is reinforced by the other senses. While it is feasible for a pupil to learn a language by himself by intensive study, it is preferable for him to rely on recordings only as an aid to regular classroom instruction, particularly if the study is undertaken at the elementary school level.

Short-Wave and Foreign Broadcasts. Language teachers have been slow to recognize the advantages of listening to short-wave broadcasts in modern languages. These broadcasts not only present colloquial uses of language, but they also help pupils to realize how helpful acquaintance with a foreign language can be. Most of the listening to short-wave broadcasts may have to be done in out-of-school hours, but it is valuable to consider and encourage it. Readily available to listeners in the United States are stations in Mexico and Central and South America. Short-wave facilities put listeners in touch with France, Germany, Italy, Russia, and China. If the broadcasting hours of the stations are not convenient for in-school listening, then it may be suggested that the pupils follow the programs as part of after-school listening. Because equipment is not always available for all the pupils, perhaps the children may gather after school to hear these broadcasts. It is preferable that several programs in a foreign language be recorded for use as a vital part of the actual school lessons. If the programs can be recorded, a library of transcriptions of language in use may be established. Recording will permit sifting of broadcasts for significant listening.

Recently the Columbia Broadcasting System inaugurated a network of stations in South America, so that ample opportunity will

exist for exchange of programs between the two hemispheres. So far the programs from South America have been given in English; there is no reason, however, why some of these exchanges cannot be in Spanish or Portuguese.

There are, moreover, some broadcasts in foreign languages presented over stations within the United States. While these are usually directed to local minority groups, they can provide the student of foreign language a valuable experience in listening. On first hearing a radio program in a foreign language, there will be only bare recognition of occasional words. Later many words, then phrases, and finally the entire content of the program will be understood. One cannot expect the experience to prove very effective in augmenting vocabulary, however, for the understanding of the broadcast will be dependent upon the pupil's vocabulary in the first place. It is doubtful whether listening to any of these broadcasts will really foster an ability to use the language offered. But it will contribute to understanding and may stimulate a desire to study it. Recommended foreign language programs may also emphasize and illustrate what has already been learned from classroom study.

Music of Foreign Lands. The language teacher may profit by having his children, even in elementary classes, listen to the broadcasting of music composed by artists of other nations. The situations, stories, or moods in the music may direct interest to the countries the music represents. The desire for knowledge of people through the study of their language as an index to their culture is encouraged by such music. Certainly radio programs and recordings provide ample opportunity for listening to fine music portraying the life and the temper of other lands.

As in other teaching situations, the focus of the work of the teacher will be on integration. He must demonstrate the relationships between each facet of life as the pupil knows it, and the life of people foreign to him, and show him how all aspects of knowledge are related. Whether foreign languages are studied specifically in relation to music or not, at least the background for the study of foreign language may be established by the fact that music is another type of language for illustrating an idea, an emotion, or an attitude.

Radio as an Impetus for Foreign Language Study. The major concern of the teacher at the elementary school level will be in establish-

ing the background for intensive study to follow in more advanced grades. Radio may be used by the teacher to elicit interest in other languages as an index to ideas and attitudes. Radio provides opportunity to hear foreign languages spoken, to learn about events in foreign countries through newscasts and other programs, and to meet representative individuals from many nations. Radio can foster interracial acquaintance and tolerance. Radio should be recognized as a vital ally by those promoting international understanding.

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Part IV

*Teaching Creative Arts with the Aid
of Radio*

Music

AS THE CHILD acquires necessary skills in language arts, he is at the same time enjoying certain esthetic experiences. According to his own standards, based upon his own experiences and imagination, he develops standards of beauty and ideas of creation. Very often the stimuli which give rise to feelings of appreciation and joy within him also awaken a desire to imitate what he sees and feels. Adults, long conditioned by conventional standards and seldom indulging the full genius of their imaginations, rarely understand and appreciate these feelings in children. In the simple imaginative play of children lies the basis for an appreciation of the arts.

We are considering fine and creative arts together in relation to radio because we believe that while in some respects they constitute two very different areas of experience, they share many qualities and are dependent upon like development. In endeavoring to develop appreciation and to promote purposeful creativity, the teacher utilizes the study of fine arts as a source of invention. He does so without drawing any definite lines.

It is well to point out that in speaking of fine arts we are accepting the broader of the two definitions offered by Webster.¹ That is, we regard fine arts as including painting, drawing, architecture, sculpture, poetry, music, dancing, and dramatic arts. In expanding the definition, we may point out that a subject may be considered as a creative art, depending upon the point of view of the individual studying it, whether or not his interest goes beyond appreciation to the creative and participative.

Although work with all the constituents of the arts is begun at an early age, since creative activity is introduced into the school experience more or less simultaneously, it is convenient to consider them separately.

¹ Sometimes, according to Webster, the definition is restricted to the "arts of design: painting, drawing, architecture, and sculpture." *Webster's New International Dictionary of the English Language*, Second Edition (G. & C. Merriam Co., 1946), p. 949.

Section I. MUSIC APPRECIATION

Radio Music and the School Child. Before the advent of radio relatively little attention was devoted to music in the public schools. This was particularly true in rural areas where there were rarely any facilities for adequate music instruction. There was some group singing and there were a few school orchestras, but on the whole, music was a study almost entirely neglected. Children living in the larger metropolitan areas were able to hear visiting artists, but the child in the small town, the child of a lower income family, or the child living in the country had little opportunity for hearing music of first quality. With the coming of radio, music was quite suddenly available to almost everyone. Music is a natural constituent of radio and has always played a major role in its productions.

In the early history of radio, relatively little time was accorded classical and semiclassical music. The fact that sponsors are now eager to identify themselves with the finest in musical offerings indicates the rise in cultural standards since the advent of radio and the great opportunities it affords. United States Rubber, General Motors, Texaco, Ford, Allis-Chalmers, and Westinghouse are but a few of the great industrial companies which have sponsored programs of classical music. Most of these programs are given at a time when there are "peak" audiences. If there were no satisfied listeners to these broadcasts, the alert, commercially minded sponsors would not present them.

Radio has made music democratic in that it brings it to people in every walk of life. Few of the high-ranking artists have not appeared before the microphone. Many owe their success to radio experience. Recordings of classical music, moreover, are absorbing a significant portion of time over many stations. WQXR, although confined to New York City, has built a national reputation upon its splendid programs of classical music, most of which are reproduced by means of recordings.

Quality of Radio Music. Being an art essentially dependent upon auditory appreciation, music loses little or nothing if the performers are not seen by the audience. Methods of transmitting and recording music are so highly perfected that the listener can receive excellent

reproductions of orchestral sound. As the quality of reproduction is improved still further, the loss of tone and possible distortion will be even further minimized. People dependent upon radio and recordings for their acquaintance with music thus have ample opportunity to become familiar with great artists and musical compositions by means of excellent sound reproduction and national distribution.

Furthermore, the best programs usually include some brief commentary regarding the composer and music. Gradually the listeners build a rich background of information about music and musicians. Radio indisputably has had a tonic effect upon music and upon composers and artists. It has brought music into the lives of millions who would have no other ready access to it.

Radio Creates a Taste for Fine Music. Some skeptics argue that there has been no rise in musical taste in spite of the increased availability of fine music. It is said that while people do listen to more music and better music, they listen primarily for relaxation and emotional release rather than to study the underlying values of the music which they hear. An answer to this argument would be that if the audience receives relaxation or inspiration, then the programs producing these effects have merit. The first step toward understanding and appreciation is tolerance; thus if the radio audience will even allow fine music to be played, then the first steps in improving musical taste have been made. As acquaintance increases, so does appreciation and understanding, accompanied by a further desire to understand and to learn. To many listeners musical form will never be interesting; even so, music may still bring them countless hours of enjoyment. We cannot all be experts, but we can gain pleasurable acquaintance with several areas of art. Certainly the radio makes such beneficial enjoyment readily attainable.

Much of radio musical fare is hillbilly, hoe-down, western ballads, or jazz. The best examples of all these forms should be preserved; they merit publicity and maintenance. The ballads of our land as sung by Burl Ives or recorded by John Alan Lomax are part of Americana.² Similarly, there is contemporary "popular" music which has lasting

² Mr. Lomax, a professor at the University of Texas and Honorary Curator of the Archives of American Folk Song, Library of Congress, has "on-the-spot" recordings of folk songs available by electrical transcriptions. One series, "The Ballad Hunter," consists of ten programs, each presenting a single type of American folk song. Distribution is made through the Federal Radio Education Committee, U.S. Office of Education, Washington, D.C.

value. Frequently, however, the music on programs is meaningless and mediocre. Unfortunately, one may develop a liking for such inferior programs as well as for those of superior quality. Schools and parents must attempt to teach youngsters discrimination. Certainly such training is essential to musical education. It is especially important to implant standards of discrimination toward radio, for radio furnishes the greatest portion of the music the average child hears. Radio is essential in establishing the popularity of any type of selection or performance.

A popular notion which should be dispelled is that classical music is not easily enjoyed because it is "highbrow" and difficult to appreciate. This attitude is the natural growth of indulgence in simplified and popularized versions of great music. Some attractive arrangements, however, may actually lead the unwary listener to a new-found appreciation of classical work. Although simplified and shortened versions may be interesting and entertaining, to use them is to imply that the audience cannot enjoy or understand the full selection. People should learn to love music in its original form, allowing, of course, for artistic freedom of interpretation. Teachers should encourage appreciation of the finest in music without condensation, frills, and masquerades. The scope of musical understanding and pleasure need not be limited. Surely radio and recordings may provide ample challenge to the teacher to utilize this wealth of instructional opportunity.

Radio Develops Music Appreciation. Radio educators have ventured into both the appreciative and the performance sides of music, but by far the most significant, widespread, and continuous impact of radio has been in the area of music appreciation. There were no attempts at first to use radio music for instructional purposes, but once the idea of doing so was established, many educational broadcasts were initiated.

In 1925 Dr. Walter Damrosch gave his first radio symphonic concert, and he liked the medium so well that he decided to utilize its possibilities for bringing his popular concerts designed for children to a much wider audience.³ The National Broadcasting Company gave an experimental broadcast of Dr. Damrosch's program for

³ Carroll Atkinson, *Radio Programs Intended for Classroom Use* (Meador Publishing Co., 1942), pp. 42-44.

children in January, 1928, and beginning in October, 1928, a series of weekly music appreciation broadcasts was inaugurated. These broadcasts were arranged in four series, each to meet the requirements of a certain age and grade level: Series A for grades III-IV, Series B for grades V-VI, Series C for grades VII-VIII, Series D for high schools and colleges. The programs, long famous among educators and listeners, played an important part in the curriculum of 70,000 schools and at their peak enjoyed an audience of 7,000,000 school children.⁴

Dr. Damrosch, an indomitable pioneer in music education and education through radio, hoped to stimulate children's interest in music and ultimately, by means of greater familiarity and understanding, to develop a love and understanding of fine music. Merely by having pupils listen to music, enrichment and understanding would not automatically occur. Perhaps no radio educator has used visual aids and supplementary materials more extensively than did Dr. Damrosch. To augment the material he presented in his broadcasts, he advised the display of instruments or pictures of instruments, the keeping of scrapbooks for pupils' comments and reactions, and a variety of both pre- and postbroadcast activities. He devised notebooks for the pupils to use which included thematic excerpts for singing, photographs, instructions, and blank pages for the insertion of notes and clippings. To help the teachers realize maximum benefits from his broadcast lessons, he compiled manuals of outlines and suggestions for each program. In his broadcasts Dr. Damrosch sought to demonstrate the qualities of the different instruments, how they might reflect certain emotions and certain activities, and how the different instruments might be used in combinations to achieve varying effects. He did not attempt to teach the pupils how to sing or how to play; he recognized such teaching as the province of the local instructor. Perhaps no radio educator has given more attention to the rôle of the classroom teacher in the ultimate realization of music appreciation.

Other programs for music appreciation appeared later and achieved much. One of the earliest and most continuously successful is the Standard School Broadcast series presented for the West Coast by the Standard Oil Company of California. This program has the

⁴ *Radio and English Teaching*, p. 184.

record of being the world's longest established, uninterrupted radio project of music education and entertainment. Although they have been available only to listeners in the West, these programs have received national acclaim and have been granted many awards of merit. The widespread distribution of the series includes 5,000 western schools with more than 500,000 pupils and 20,000 educators.⁵ Although a commercial program, uninterrupted by advertising, it ranks high among educational broadcasts and is generally accepted by school systems.

The programs are unified into a course in music enjoyment. The selections presented are carefully allied with history, geography, art, and literature, and the selections and commentary have been arranged to indicate the universal correlation between music and people.⁶ Each program is outlined and the possible overlapping of other curriculum areas is noted so that the broadcasts may serve many needs. Picture displays and instructions are presented so that the teacher may readily follow the series and at the same time check the efficiency of his own work.

Designed for in-school use, the Standard School Broadcasts present excerpts of music played by a studio orchestra and offer explanations and commentary regarding the selections. Although essentially designed for the promotion of cultural enjoyment of music, the series calls for extensive correlated pupil activities and for a certain amount of musical participation. Each outline of the broadcast includes suggestions for work in allied curriculum areas. For example, the broadcast for March 22, 1945, was concerned with Ferde Grofé's *Grand Canyon Suite*.⁷ The music was discussed as a tone picture and described and illustrated in respect to unity, variety, proportion, space, time, and so on. Comparisons were made with the qualities of graphic art. The four areas for correlated study were as follows:

Social Sciences: Western America.

Literature: Poetry describing the West.

Art Picture: "Road in Arizona" by Federico Castellon.

⁵ Standard School Broadcast, 19th Annual Course, (Series of 1946-47 (Standard Oil Company of California, 1946), p. 1.

⁶ Adrian Michaelis, "The Musical Soul of a Corporation," *Journal of the Association for Education by Radio*, II (October, 1942), p. 3.

⁷ Standard School Broadcast, 17th Annual Course, Series of 1944-45 (Standard Oil Company of California, 1944), p. 24.

English: the italicized words in the lesson are the subject for study; such words as *graphic*, *artists*, *perspective*, *opera*, and *imagination*.

Because of the philosophy behind the program series — “integration, preparation, and finally, participation” — pupils were to join in the singing of a participation song each week.

In order to make the implications of music more vital for the youthful listener, several characters were invented. They often appear during the course of the broadcast commentary. Designed to serve specific educational purposes, they are as follows:

Rondomel, the Minstrel Boy, who, as the spirit of music, dramatizes music enjoyment.

Philomel, the Troubadour, who represents the music of Europe.

Jack-of-All-Tunes, the Tunesmith, voice of the music of the Americas and the sea.

Joseph, the Afro-American Bard, who demonstrates the Negro's great contributions to music.

Mavis, the Opera Songstress, whose voice brings listeners music of the opera and concert stage.

Carola, the Pan-American Songbird, who offers the musical treasures of Latin America.

Celia, the Music Student, personifying the listener's own musical enthusiasms and discoveries.⁸

Michaelis, the program director of the series, lists as the objectives:

1. The development of an authoritative, up-to-date, usable course of study using educator's advice and showmanship.
2. Consistent use of printed aids, direct mail, and personal contact as supplementary aids to the broadcasts.
3. Maintenance of the program as strictly supplemental to the classroom teacher's work.
4. Free guidance material to teachers, lesson leaflets, and an annual comprehensive Teachers' Manual offered six months in advance of the series.
5. Close affiliation with the Standard Symphony Hour by the rendition of music common to both programs.
6. Careful avoidance of commercialism.⁹

⁸ Standard School Broadcast, 15th Annual Course, Series of 1942-43 (Standard Oil Company of California, 1942), p. 1.

⁹ Adrian Michaelis, *op. cit.*, p. 3.

Another prominent radio appreciation program designed for school use is "The Magic Harp," part of the WLS (Chicago) "School Time" series.¹⁰ A concert orchestra plays selections and a narrator tells the familiar tales that inspired the world's beloved music. The purpose of the programs is to introduce juvenile listeners to the world of music.

As a project in music appreciation for school children during 1944-1945, the Extension Division of Michigan State College broadcast a group of "recognition pieces."¹¹ Ten selections were chosen, and one of them was played on each program until all ten were heard. Then portions of all were repeated so that some time on each program was devoted to these selections. Among those numbers presented in the 1944-1945 series were "The Blue Danube Waltz," "Hungarian Dance Number 6," and "Marche Militaire." Such a technique helps to familiarize children with famous music they should know.

Still another program worth considering here is "Symphonies for Youth," conducted by Alfred Wallenstein and broadcast in the Philharmonic Auditorium in Los Angeles before an audience of school children each Saturday morning.¹² Listening groups at home were sponsored by the schools and the Parent-Teacher Associations, and study material and program information were provided by the Mutual Broadcasting System. As a special feature, Mr. Wallenstein conducted an audience participation quiz using questions submitted by school children.

Regular Music Programs as an Educational Tool. Programs especially designed to bring music appreciation instruction to school pupils are of the greatest benefit to the teachers, for they are carefully prepared and presented for juvenile interests and age levels. Often, however, teachers must rely upon ordinary musical programs not designed for school use, since not all schools have access to the broadcasts especially designed for their needs. Fortunately, there is an abundance of excellent music being broadcast, and the teacher may make it available to pupils by watching program listings. Besides

¹⁰ Bulletin issued by "Prairie Farmer — WLS," Chicago, 1944-45.

¹¹ *Teacher's Manual for the Rural School Music Broadcasts, 1944-45* (East Lansing, Extension Service of Michigan State College, 1944), p. 5.

¹² *Listening for Victory*, Quarterly Issue, Number 2, January, 1945 (Los Angeles: Office of the County Superintendent of Schools), p. 5.

introducing music programs into his classroom and recommending them for out-of-school listening, the teacher may use recordings of musical selections. There are countless transcriptions of music by leading artists. Music albums and individual selections attractive to children are produced by many recording companies. In many instances, where the equipment is available, a library of recordings of broadcasts pertaining to music may be made in the school.

Lists of types of music are available to the teachers. They may readily find recorded selections pertaining to their special needs. For example, Victor Records issues a booklet entitled "Victor Records for Rhythmic Activity, Meter, Phrase, and Theme Recognition" and another, "Folk Dances and Singing Games." Moreover, various recording companies distribute catalogues in which their work is indexed and cross indexed for easy reference and frequent use. In the Teachers' Manual for the "Gateways to Music" series of the American School of the Air (1944-1945) is included "Suggested Recordings" as well as "Suggested Readings" and "Suggested Activities." There are also published follow-up activities for the broadcasts in the music appreciation series of the public schools in Providence, Rhode Island.

Special Techniques. The teacher must recognize that inspiring appreciation is a slow, arduous process, requiring repetition, patience, and noncompulsion. Because it combines science in metrics and form so completely with psychology in emotional stimuli and response, music offers a unique problem in understanding and accomplishment. The training in the techniques of performance and composition requires mathematical exactness and creative imagination, but the realm of appreciation depends upon more personal and emotional factors. Art in any form is a tenuous, sensitive expression of mood, requiring the most delicate understanding. Sometimes it is advisable to suggest that the pupils hear a selection and then listen attentively for a certain theme or musical idea. The piece may be repeated until the composition is familiar. Soon the pupils will be listening for other aspects of the music, and their comprehension of composition and meaning will grow. The scene and the occasion for the music might be described, and the children may be asked to imagine the proceedings while they listen. For instance, they may try to identify the recurring themes and action which dominate

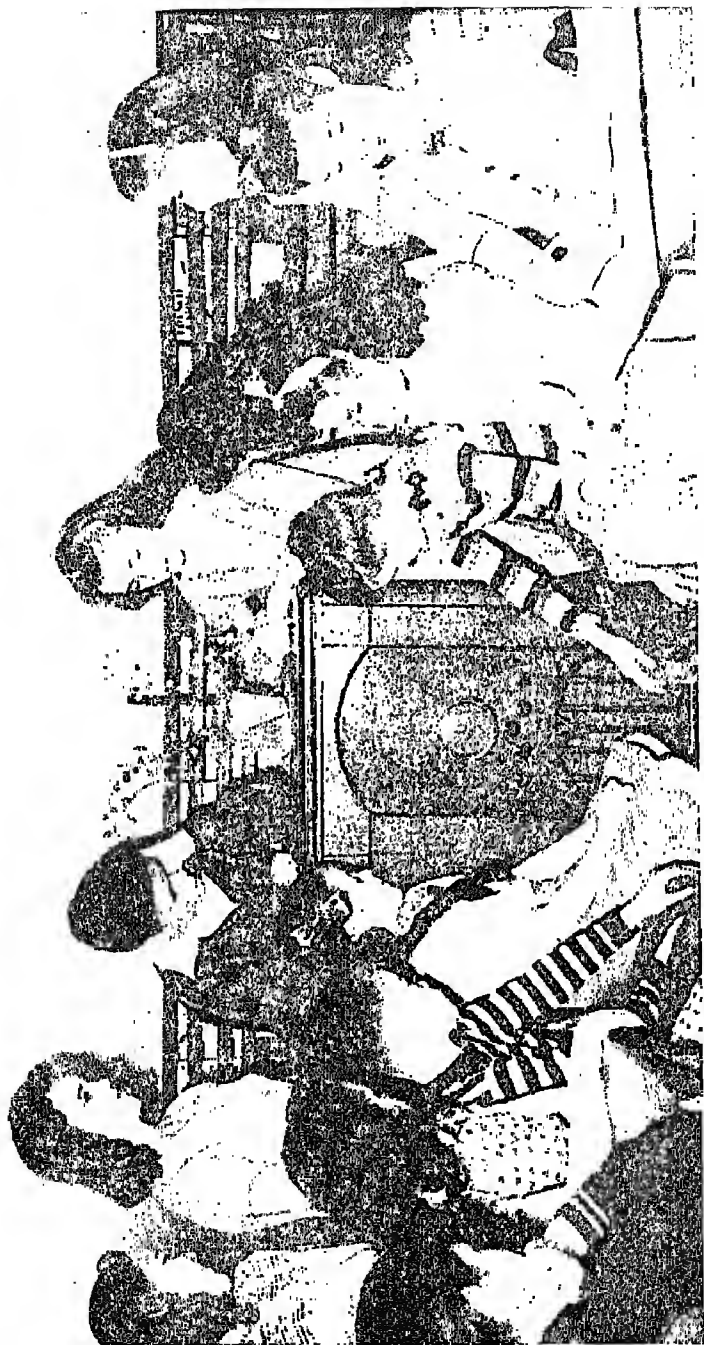
Brahms' "Rhapsody in B Minor," or Beethoven's "Symphony Number I in C Minor," or Prokofieff's "Peter and the Wolf."

The teacher may vitalize the study of music by encouraging his pupils to use their musical experiences as a springboard for other activities. In response to music an alert pupil will experience emotions and memories which he should be allowed to communicate in conversation or creative endeavors. Some of the activities might involve mock broadcasting. Scripts about music, its purposes, composers, or performers may be produced for in-school broadcasting. Pupils may perform selections on instruments over an actual or a simulated microphone.

The possibilities of extracurricular work to be done at home in connection with music and radio are abundant. It may be suggested, for instance, that children listen to a certain station and note the types of music presented at a specific time over a period of days or weeks. If the pupils live in an urban area, they may compare the offerings of several different stations and attempt to analyze those differences. They may consider the musical interests and preferences of a group of people. Pupils may study the use of musical backgrounds for the spoken word as a means of creating an impression or a mood. Other pupils may study the life of a musician whose works they enjoy. If the project is to be a part of a larger unit of study, they may write a narrative or playlet about the musician's life. More advanced pupils of music appreciation may extend their investigations to a study of form. Throughout their research they will have the pleasure and the benefit of hearing good music through radio, and at the same time have access to some of the finest commentaries on music and musicians.

Musical Broadcasts as a Bridge to Other Activities. Music is a curriculum area easily integrated with other areas of subject matter. It may be studied in conjunction with any one of the social studies or humanities. Regarding this, Arthur S. Garbett made an interesting point when he declared that to realize maximum integration between music and other subjects new music must be especially written.¹³ Pupils may be encouraged to compose music to meet this demand, he said, but if an adequate amount of acceptable quality is not pro-

¹³ Arthur S. Garbett, "Development of Creative Music by Means of Radio," *Music Educators National Conference, Yearbook*, 1936, pp. 330-32.



*Music Appreciation Can Provide a Stimulating Experience if the Pupils
Have Been Carefully Prepared by the Teacher.*

duced, then professional composers should be commissioned to write it. Ideally, exposure to music in conjunction with other studies should stimulate young listeners to compose music suitable to their own age levels which can be used in the schools. Radio programs may offer the impetus for such creative experience. Actually, we cannot expect such a complete realization of the creative experience from most children.

Nevertheless, there are many opportunities for relationship between music and other subjects. This is proved by some of the work done in connection with the Damrosch series on music appreciation. For example, one broadcast designed for third and fourth grade pupils was entitled "Fairies in Music."¹⁴ The compositions studied were Mendelssohn's "Overture to A Midsummer Night's Dream," Grieg's "March of the Dwarfs," Ravcl's "Beauty and the Beast." The children read about fairies, collected pictures of them, discussed and compared fairies, elves, dwarfs, and other inhabitants of fairyland. They imitated fairy movements as indicated by the music, and they criticized and studied the compositions.

Another group of school children engaged themselves in the following activities built around the broadcast of "Jack Frost and the Lost Paint Box."¹⁵ Before the broadcast, the teacher made the children pleasurably anxious to meet the two children of Brand-New Town, Sally and Tommy. Then he introduced them to the song "Jacky Frost" found in Book 1, page thirty-seven of the volume *Music Hour*. During the broadcast the teacher demonstrated and directed the pupils in any activities required by the script. As a follow-up activity, they played a game of "Professor Quiz," using such questions as "Who is Jacky Frost?" "What does he look like?" "Have you seen trees he has painted?" "What are the colors he uses?" Then the children drew pictures of Jacky Frost, of Tommy and Sally, of Brand-New Town, and they cut out pictures from magazines to represent these characters. Next they found autumn leaves and mounted them for scrapbooks. Other children traced leaf shapes, cut out and colored them, and then used them for decorations for the room or for invitations to an autumn party. The whole train of activities was

¹⁴ *Education on the Air* (1931), pp. 175-76.

¹⁵ "The Magic Boots Treasure Chest," Chicago Public Schools Program, *School Radio Scripts*, edited by Blanche Young, p. 32.

established from a single song in a broadcast story. Thus, while children learned about music, they were augmenting their vocabulary, practicing simple coordinated bodily movements, engaging in research and discussion. Activities in connection with such radio music lessons may also include work in composition, reading, historical research, painting — activities all stemming from a single listening experience. The possibilities to which the radio may serve as the magic door are virtually limitless. The opportunities for such integration are particularly rich at the lower elementary school level, for the work there is not departmentalized, and learning springs from general topics.

Radio Music and International Understanding. Radio programs have helped to build better understanding between nations. Thus far very little has been done to correlate the music of foreign countries with actual instruction in the sociology, the history, the literature of nations. Some programs have emphasized this aspect, however, and the trend has been in that direction in recent years. The Department of Public Schools of Providence, Rhode Island, offered a series of broadcasts devoted to Pan American music.¹⁶ Not only were folk melodies and rhythms demonstrated, but also an extensive discussion of Pan America and its peoples was presented. A map was available so that the countries represented in the music might be noted, necessary words were defined, and the background of each selection was described. Among the selections were "La Golondrina," "La Paloma," and "Habanera."

The "Gateways to Music" portion of the American School of the Air (1944-1945 school year) presented programs devoted to "Italy, Cradle of Music" and "Land of the Belgians."¹⁷ The lessons correlated music with current events. For example, one program was entitled "Music and the Middle East"; commentary and music were linked to a short discussion of the conference at Teheran and other recent events around that geographical area.

"The School Music Hour" of the Detroit City Schools offered songs from many lands in its April, 1945, series, "Musical By-Paths," by means of which the listeners and youthful performers from

¹⁶ "Radio Broadcast Bulletin for Elementary Schools," Station WJAR (Providence, R.I.: Department of Public Schools), April 6, 1944.

¹⁷ *Teacher's Manual for the CBS American School of the Air* (Columbia Broadcasting System, 1944), pp. 31-33.

different city schools vicariously visited foreign places, peoples, and homes.¹⁸ The selections included "Far-off India," Grieg's "Concerto in A Minor," "Estrellita" (Ponce), "At the Gate of Heaven" (Pyrenees Mountain folk song), and others.

Musical programs on the radio may be used to build appreciation of our own homeland. For instance, in the 1944 series of broadcasts for the rural schools of Michigan, presented by the Extension Service of Michigan State College, the programs were designed around such titles as "Music about Home," "Patriotic Songs of America," "Songs We Sing in Church," and "Adventuring in America."¹⁹ Still another example was the "America, My Country" program of the 1944-1945 concert series given by the Rochester, New York, Civic Orchestra for use as part of the work in music appreciation of the Rochester School of the Air.²⁰ The program offered such selections of American music as would foster an understanding of our life and its reflection in music.

Certainly the folk music of every country and region should be granted marked attention. Emphasis should be directed to basic similarities among all peoples of the world and the significance of folk music as a reflection of social conditions. The commentary on musical radio programs may not emphasize these values, but the alert teacher can direct the attention of his students to them by means of specific lessons on the subject or by frequent notation as examples present themselves.

Section II. MUSIC PARTICIPATION PROGRAMS

Radio and Direct Teaching of Musical Skill. Radio educators have done their utmost to use radio as an agency of musical instruction. They have tried to teach piano and other instrumental skills and vocal music by the aid of radio broadcasts. At least two

¹⁸ "The School Music Hour" Radio Series, April, 1945. Department of Radio Education, Division of Instruction, Detroit Public Schools.

¹⁹ *Teacher's Manual for the Rural School Music Broadcasts, 1944-45* (Extension Service of Michigan State College, 1944).

²⁰ *1944-45 Concerts of the Rochester School of the Air* (Rochester, New York: Board of Education, 1944), pp. 6-7.

programs have been developed to teach listeners to play in bands or symphonies. Because the value of radio to music is primarily in fostering familiarity and appreciation, direct technical instruction is hardly an ideal field for its use. Nevertheless, there have been successful attempts, and if programs are available in communities where such radio lessons are broadcast, students may profit thereby.

In 1931 two programs designed to train listeners in piano music were broadcast. In the one, "Keys to Happiness," conducted by Dr. Sigmund Spaeth, the emphasis was on entertainment, but in the other, "Music in the Air," directed by Osborne McConathy, very specific instructions were given.²¹ By means of a chart and diagrams issued to the listeners (there were over 75,000 requests) and elementary instructions and demonstrations presented over the radio, certain fundamentals of piano playing were taught in six broadcasts. Visual-aid charts reduced the amount of necessary verbal explanations. The underlying philosophy was to have the pupils associate the playing of the music with printed symbols and manual movements so as to develop coordination of eye, ear, and hand. Practice was encouraged by assigning interesting combinations of sounds and notes to be worked out on the simulated keyboard. Each broadcast included the presentation of some beautiful but simple selection within the scope of the abilities and skill of the beginner. Piano teachers indicated that this work intensified interest in learning piano, and some public schools were reported to be using the material.

The Teaching of Band Music. The most famous and possibly most consistently successful experiment in direct teaching of instrumental music by radio was that of Dr. Joseph Maddy of the University of Michigan. Recognizing the need for preliminary band instruction in Michigan public schools, he undertook to offer radio instruction in all band instruments except the drum. The material studied consisted of fifteen well-known songs, and instruction books which included the music for these selections were sent to participating schools. The technique which Dr. Maddy employed was to have the studio band — the University of Michigan band — play each selection so that the listeners might become familiar with the tune, the rhythm, and the sequence of parts. Then the students tried to follow

²¹ Osborne McConathy, "Teaching the Piano by Radio," *School Life*, XVI (June, 1931), pp. 196-97.

on their own instruments, with the written score before them and the studio band as guide. After the pupils were able to follow along with some ease, they played the melody while the studio band provided the harmony. Several pupils were able to join their own school bands after two such radio lessons; and after the third lesson practically all the pupils could play simple pieces. Keeping in close touch with radio classes by means of postal card questionnaires and visits to classrooms in various parts of the state, Dr. Maddy was able to note advantages and disadvantages of his lessons and alter his techniques as required.

Dr. Maddy believes that in the early stages of learning to play band instruments radio teaching may be more fruitful than individual, personal instruction.²² The pupil is provided with good tone to imitate. He must play smoothly and in time in order to keep pace with the radio. He has the immediate stimulus of ensemble playing. There are disadvantages, of course, in that the teacher cannot observe, hear, or correct individual pupils. Inasmuch as he is stimulating interest in band music rather than individual technique, which must come from concentrated practice and instruction, Dr. Maddy's approach by direct radio instruction has proved very successful. He believes that ten to fifteen lessons are about the limit of the number of broadcast periods which a class needs for preliminary instruction; after that, lagging interest and the need for personal assistance make classroom teaching preferable.²³

"The Home Symphony," long an institution over NBC, offered amateur musicians an opportunity to play along with a symphony orchestra. While no instruction was offered, the series not being designed for in-school use, "The Home Symphony" program did offer many of the advantages described above and allowed for the pleasure and profit of ensemble work. While it is not currently available as a broadcast series, there may be programs of this type presented in the future, particularly over Frequency Modulation stations.

Vocal Music and Radio Instruction. The greatest opportunity for actual direct instruction by radio is offered in the field of vocal work. Virtually every child likes to sing and can be taught to sing well.

²² Joseph E. Maddy, "Expanding Music Education in Michigan," *Education on the Air* (1934), pp. 96-100.

²³ Joseph E. Maddy, "Bandmastering by Radio," *School Life*, XVII (January, 1931), pp. 8-9.

Participation is the very soul of vocal music at the elementary school level. The familiarity which children gain through frequent association with all sorts of vocal music has served as an impetus to the study of singing alone or in groups, and the music offered by radio affords a chance for singing on all levels. A large portion of all radio time, regardless of the audience for which the broadcasts are intended, is devoted to vocal music, both classical and popular, so that a listener soon knows and enjoys a rich store of selections. Many a producer has taken advantage of this growing appreciation of vocal music by using the popularity of the community sing. For instance, the CBS feature "Sing along with the Landt Trio," has long provided listeners the chance to learn and to sing simple songs which are part of the American heritage. Often community singing is a popular part of variety programs. Even from their earliest years, children may sing with the music presented on many programs. By the time they are ready for school they may have had years of experience with vocal music by virtue of listening to radio.

Not only has radio made all types of vocal music available, but the advent of broadcasting has served to change the psychology of teaching music. For many years school music has depended on the philosophy that vocal music training depends upon visual instruction: the children must learn the symbols and then learn to reproduce their meaning. While it is still true that a student of music must recognize and reproduce musical symbols, instruction by radio and the use of recordings in the teaching of music have served to shift attention to the necessity for aural training. The child listens to the correct tone and endeavors to imitate it without at first learning the written symbols and without book drills. Aural training and tone reproduction initially establish the background upon which the entire program of vocal music is erected. Training in the reading of musical language comes later.

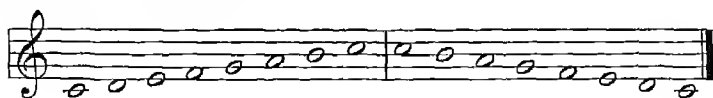
Examples of Vocal Instruction by Radio. A pioneer program emphasizing the teaching of vocal music is Dr. Edgar B. Gordon's "Journeys in Music Land," heard as part of the Wisconsin School of the Air. Now in its seventeenth year (1947-1948), this splendid and popular program endeavors to teach the love and understanding of music to school children throughout the state. Specifically, Dr. Gordon's purposes are:

- I. To teach a repertoire of folk and art songs
 - a. To increase enjoyment in singing
 - b. To develop and increase singing ability in terms of accuracy, diction, tone quality, and interpretation
- II. To develop an understanding and recognition of rhythm (meter-sensing) — both measure and phrase
 - a. To give opportunity for physical rhythmic response
 - b. To teach a recognition of note values
- III. To develop ability to read music at sight by use of
 - a. Repertoire material in Part Two of songbook
 - b. Staff dictation
- IV. To give ear training by means of
 - a. Tonal recognition through musical dictation
 - b. Transfer of tonal recognitions to staff notation, using both numbers and syllables, so-fa.
 - c. Drill on tonal patterns derived from song repertoire
- V. To teach two- and three-part singing²⁴

In the lesson books sent to the children participating in the program, Dr. Gordon addressed a written message to the young listeners in connection with each song. He built his study program around a series of goals. For example,

GOAL 1. STRAIGHT AHEAD

I promised you that it won't be hard to learn to read notes, if you understand a few simple musical facts, and then practice. For example, do you know that a large part of the music which we sing and play comes from one simple little tune or "tone pattern"?



NUMBER NAMES	1	2	3	4	5	6	7	8	8	7	6	5	4	3	2	1
SYLLABLE NAMES	DO	RE	MI	FA	SO	LA	TI	DO	DO	TI	LA	SO	FA	MI	RE	DO
PRONOUNCED	doh	ray	mee	fah	soh	lah	tee	doh	doh	tee	lah	soh	fah	mee	ray	doh

I can imagine some of you saying, "I know what that is — that's the *scale*." You're right; it is the scale. And if you learn to sing that simple tone pattern well, you've prepared the way to sing many nice songs.

²⁴ *Songbook for Children, Journeys in Music Land*, 1944-45 (Wisconsin School of the Air, 1944), p. 32.

This year we have something new. I'm sure you've all seen it on the outside back cover — a picture of the piano keyboard which we call a "tone finder." As soon as you have read this paragraph, we'll turn to the piano keyboard and sing the scale, pointing as we sing to the key that plays that note on the piano. First we'll use the numbers, and later on the syllables and letter names of the notes. We must become acquainted with all of them. All right, let's begin.

Did you find that hard? When you're able to sing the scale easily using the number names, then you've reached Goal 1, and may head for Goal 2.

THIS WAY TO GOAL 2

Did you ever try to *think* a tone instead of singing it? It's something like reading to yourself instead of reading aloud. Suppose you try this: Start out to sing the scale using numbers, but when you get to numbers 2, 4, 6, and 7, only *think* them instead of singing them. Then you'll actually be *singing* numbers 1, 3, 5, and 8. Can you do that? Try it, pointing out numbers 1, 3, 5, and 8 on the tone finder.

Numbers 1, 3, 5, and 8 make up a very important tone pattern which we call the "tonic chord." Perhaps you know that all army bugle calls are formed on that chord. I want you to sing it many times until you can sing it starting upon any pitch. Then you've reached Goal 2."²⁵

As part of each broadcast a song previously studied was presented by way of review. At the end of each school year, children gathered in Madison for a Radio Music Festival to meet their music teacher and to sing together the songs they had learned during the year.

Further examples may be noted. In an effort to have a music program for both rural and urban schools, the schools of Cabell County, West Virginia, broadcast twice each week programs involving four activities: singing familiar songs, learning new rote songs, rhythmic expression, and directed listening.²⁶

"Let's Learn Music" also centered around the teaching of vocal music (grades I-V). It was written and produced by the Supervisor of Music, Nashville, Tennessee.²⁷ The radio lessons used both live and recorded music for example and inspiration.

The Value of Radio Instruction in Vocal Music. Aside from the obvious benefit derived from offering instruction by competent

²⁵ *Ibid.*, pp. 23-24.

²⁶ "Using the Radio to Teach Music in Country Schools," *Elementary School Journal*, XLII (October, 1941), p. 92.

²⁷ *Journal of the Association for Education by Radio*, I (December, 1941), p. 4.

teachers, from providing well-planned lessons, and from giving equal opportunity to students in different schools, there is considerable value to be derived from the common social experience of group vocal instruction over the radio. Pupils who sing in unison following a broadcast and who compare their work with that of fellow students learn the necessity of tempo, consistency of interpretation, pronunciation, and other standards of presentation. These values are multiplied and enhanced when the pupils realize that they are singing not only with their fellows in the classroom but also with many other children in other communities. Moreover, a certain amount of attention to drill, to musical symbols, and especially to following radio directions, stimulates mental alertness. The novelty of the situation will help to make the drills pleasant. As a rule, too, a radio music lesson can usually offer more varied and more effective accompaniments to vocal work than can be provided by the classroom teacher.

Where recording equipment is available, the teacher has an even greater advantage. Not only can he transcribe significant musical programs for future or repeated use, but he can also frequently aid the class by recording their work individually and in groups in order to illustrate good and bad features of their singing. Hearing one's own work provides a most graphic and effective means of checking error. Certainly it creates impetus for further study. Comparisons may be made regarding interpretations, phrasing, and tone quality between the pupils themselves and between pupils and the artists whose work is available on recordings.

Summary. Radio's relationship to music appreciation and instruction is both intimate and vital. Even when there is no attempt to ally radio with education, radio is an influence on a child's appreciation of the musical world. Learning to sing or to play an instrument is a matter of interpretation as well as of technique. Whether or not participation programs are available, listening to music appreciation programs will provide a foundation for improved performance. The alert teacher cannot afford to overlook the significance of this agency of radio broadcasting to the future of his pupils.

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Art

THE INCREASE IN PUBLIC INTEREST in music in recent years has been paralleled by interest in art. Whether the relatively few radio programs devoted to art appreciation are responsible for this influence is questionable. Radio broadcasts featuring public discussions of art have not yet received concentrated or organized attention. Radio has, however, the facilities and the opportunity to increase public knowledge of the arts, and should act as an ally in the campaign to raise public taste.

Appreciation Related to Participation. Again, as in the case of music, the work is twofold, involving twin approaches—appreciation and participation. Inasmuch as appreciation is the foundation for performance, greater emphasis should focus there. With radio, the area of appreciation offers the greatest challenge. Certainly a profound understanding of artistic values in all fields of creative endeavor inspires not only the desire to express oneself, but also intelligent self-criticism. Two main classes of radio programs have been devoted to art appreciation: those designed for a general audience, both child and adult, which follows the programs without instruction or aid, and those which form part of a regular educational series. These two types of programs share certain problems and advantages.

Programs Fostering Art Appreciation. A program designed to foster art appreciation may depend upon description and discussion. It may dramatize a historical background to enliven the period or life of the artist. Subject matter for any of these programs may include descriptions of painting, sculpture, and the decorative arts, or it may illustrate functional arts, such as architecture, the handicrafts, or interior decoration. Inasmuch as art appreciation should culminate in the joy gained from an enhanced art of living, it is wise to make esthetic subject matter as inclusive as possible. If radio talks about art are not comprehensive in scope, then it is an urgent responsibility for the teacher to bridge the gap from small details to the over-all picture of culture.

In early periods of world history, when laymen were less literate,

both church and state were dependent upon pictorial art for communication of ideas and instruction. Various aspects of art offered a universal source of public appeal. While we are now no longer dependent upon art for the communication of ideas, the force and vitality of pictorial creation continue. We must learn to recognize and use art for greater joy in living and an increased efficiency in our work. Well-directed art appreciation may lead to broader fields.

Programs promoting interest in art by description alone are usually the most difficult both for the producer and the listener. As a rule, such programs are promotional, hoping to lead the listener to a museum or gallery to see the object under discussion. Some of these programs are effective within their particular limits. "Art in America," a weekly series sponsored by the Metropolitan Museum of Art, the Museum of Modern Art, the Art Institute of Chicago, and other interested groups, was the first national radio program concerned with art appreciation. Divided into two parts, one section, sponsored by the Metropolitan Museum of Art, presented information on American art up to the middle of the nineteenth century. The second section, sponsored by the Museum of Modern Art, offered information about art from the mid-nineteenth century period to the present. Following these programs, the Art Institute of Chicago contributed broadcasts regarding the European background of American art, and the history of collecting in the United States. Each program included a brief talk on a period or a group of artists, followed by a discussion between the speaker and the interviewer.¹ NBC and the National Art Society presented a series, "Art for Your Sake," which included discussions of paintings, and WNYC introduced contemporary paintings and pieces of sculpture on a program series entitled "Art in New York." Many city museums have offered series on local stations regarding their exhibits; for example, Springfield, Massachusetts, St. Louis, Seattle, Minneapolis, and Syracuse, New York.²

The inclusion of dramatization and historical subjects tying material specifically to an era, an idea, a purpose, or an incident is

¹ One may read about this series in "Art in America: A Radio Program," *Bulletin of the American Library Association*, XXVIII (January, 1934), pp. 29-30; or in "Radio Programs on Art in America," *School and Society*, XXXVIII (December 16, 1933), pp. 796-97.

² "Art on the Air," *Magazine of Art*, XXXVI (November, 1943), p. 278.

effective in a program about art. School listeners as a whole are more easily attracted to this type of program, and programs designed for specific educational purposes usually depend upon this type of presentation. "At the Foot of Adams Street," a program of the Art Institute of Chicago, dramatized incidents from the lives of artists.³ The work presented by the Art Department of the Indianapolis Public Schools included a monthly broadcast on art appreciation.⁴ In this series the listeners were taken on imaginary visits to foreign countries to inspect artistic accomplishments there. "Art Speaks Your Language" was a series of radio dramas offered by the Denver Art Museum and the Junior League of Denver.⁵ Designed to present a background for appreciation of the arts and crafts, it introduced listeners to artists of both regional and national importance. While it adds much to the interest in a masterpiece of art to learn about the society which produced it, so much attention can be given to the artist and the background that the purpose of the program is lost. A work of art should be able to stand the test of being absolutely divorced from its environment and still elicit pleasurable responses from those who view it. Radio, of course, cannot do this. The teachers who recommend radio programs to their pupils must therefore use adequate preparation and follow-up activities.

Visual Aids and Art Broadcasts. By far the most effective programs about art are those utilizing visual aids. Booklets, individual pictures, or slides may be provided to accompany a broadcast. Follow-up activities may include hunting down and describing related illustrations in books or periodicals. Schools often supplement broadcasts by means of slides. The Board of Education of Cleveland and the museums which cooperate present slides as an aid to radio courses on art appreciation. Both the Detroit Public Schools and the Chicago Public Schools distribute beforehand large pictures of famous paintings which are to be the subjects of broadcasts. The Art Department of the Indianapolis Public Schools distributes sheet drawings in advance of the broadcasts about art; thus the children have opportunities for seeing the subject matter, and are also given directions for coloring the designs after the broadcast.

³ "Art on the Air," *Magazine of Art*, XXXVI (May, 1943), p. 198.

⁴ Bulletin issued by Indianapolis Public Schools, 1944-45, p. 2.

⁵ Bulletin issued by the Rocky Mountain Radio Council, 1944-45.

"Look and Listen" was a series of art appreciation broadcasts presented over a station in Houston, Texas, under the auspices of the Museum of Fine Arts.⁶ In order to augment and enliven discussions of art, one local newspaper published in each Sunday edition a picture of some local museum masterpiece. The object pictured was featured during the course of a radio broadcast. During one season of this program an interesting feature was an imaginary monologue by a famous artist. For example, information about Verrochio, his life and work, was presented in this way.⁷

The effectiveness and value of "Art for Your Sake," described above, was doubled for listeners who sent for the sixty-four color reproductions offered to augment the broadcasts. Along with the reproductions, biographical and critical commentaries were sent to those who made requests.⁸ Both the Rochester School of the Air and the Cleveland Public Schools distributed drawings and sketches of objects to be discussed on radio broadcasts so that the pupils had a visual image even when the subject was neither a painting nor a piece of sculpture. For example, in a lesson by the Rochester Public Schools on art appreciation of the native crafts from the battle zones, a map of the South Pacific was sent with sketches of the handicrafts native to each area. Then, on separate sheets, were larger drawings which showed native shields, grave posts, twined baskets, and designs.⁹ The fifth grade handicraft class of the Cleveland Public Schools studied "The Crafts of the Allied Nations," and sketches were distributed showing articles exhibited by the Cleveland Museum of Art.¹⁰ The inclusion of such visual aids not only makes radio lessons more interesting; it also helps to focus and maintain them in the memory. Inasmuch as art depends upon visualization, it is especially important to incorporate visual aids whenever possible. Certainly television will be a boon to courses in art appreciation.

Art Instruction through Radio. Aside from the courses specifically woven about art appreciation there are radio courses which attempt

⁶ "Art on the Air," *Magazine of Art*, XXXVIII (May, 1943), p. 198.

⁷ *Ibid.*, (November, 1943), p. 278.

⁸ Mildred Constantine, "Art for Your Sake," *Progressive Education*, XVII (April, 1940), pp. 260-61.

⁹ Printed materials distributed in connection with the broadcast series for 1944-45.

¹⁰ In a natural step from appreciation to achievement, the pupils studied the motifs and then constructed articles typical of the crafts of the people. (See bulletin issued by the Cleveland Board of Education for the radio programs over WBOE for 1944.)

to stimulate the listener to active participation. Such work is usually, if not always, offered as part of the units of the various schools of the air.

Art in its highest sense is creative rather than dependent upon the achievements of others. In some ways radio is ideal for this aim in that it affords aural rather than visual stimuli and by verbal description leaves the manner of recreating an artistic experience to the imagination of the pupil. While we should not recommend total dependence upon radio listening, there are occasions when it offers a sound approach.

Perhaps a pioneer experiment in art instruction, and one still popular, is the "Let's Draw" series offered by WHA as part of the Wisconsin School of the Air. Begun in 1936 by Wayne Claxton, the lessons attempt to present dramatic settings in order to stimulate the child's imagination to creative activity and original artistic endeavor. While lectures on art and suggested activities are given, fun is the keynote. Pupils are to enjoy programs devoted to art and then volunteer appropriate artistic efforts themselves. Every effort is made to overcome fear and lack of self-confidence in one's ability to draw, paint, model, or carve. Technical standards of achievement are minimized. Mr. Claxton seeks to spur the flexible imagination of the child to consciousness of the dramatic possibilities of his own life which may be artistically expressed. The pupil is taught to feel the relationship between himself and the art of his own environment. After the broadcasts the pupils have a period of at least one half hour to engage in some means of artistic expression. This period is designed to foster individual adaptation of ideas presented by the broadcast. Any one program may serve as an impetus for many class periods of artistic endeavor. In some other instances, the work given on the radio may require very few follow-up activities.

Recognizing the need for greater emphasis on visual stimuli, a "round robin" exhibit was inaugurated. Certain drawings were selected from each school to be sent to WHA and later circulated among the classrooms of the state. Mr. Claxton observed that the quality of the work improved in a very few weeks when the children were able to see how others responded to the same programs they had heard. The "round robin" exhibit also served Mr. Claxton as a gauge to the success or failure of the lessons, offering still further



Chicago Public School

*Almost Any Radio Program May Be Used to Inspire
the Student in Drawing or Painting.*

opportunity for analyzing the general weaknesses and needs of the pupils.¹¹

More recently the work of "Let's Draw" has been under the direction of James A. Schwalbach. In the school year 1947-1948 it covered a twenty-five minute weekly period designed for use by pupils in grades four to eight.¹² It is significant that this work on "Let's Draw" may be allied to one of several experiences. For instance, the broadcast made February 29, 1944, was entitled "In a Persian Market" and, as the title suggests, was based upon the musical selection by Ketelby. The rich rhythm and the color of the music led to classroom discussion of color moods, the study of the color wheel, groups of colors, colors for different seasons, and review of information regarding the mixing of colors. Next came a display of pictorial reference material regarding Persia and the Near East. After the radio lesson came the class discussion, specially correlated with social study and geography units. Then the classes were shown how to make a large mural depicting the Persian market.¹³ Other openings for units on art are such stories as "The Frost King's Bride," subjects such as "How I Would Improve My Schoolroom," or "Art, the Salesman," or music such as "The Mexican Hat Dance."

It is noted that Mr. Schwalbach directed the pupils in certain utilitarian assignments such as making ration book holders, war buttons, and so on.¹⁴ Certainly there is a great field for work in teaching handicrafts or at least in motivating the desire to learn about them. The utilitarian aspects of art should not be overlooked, nor should the pleasure and satisfaction of achievement be minimized. As Dorothy Gordon points out, an outstanding series of radio programs in Germany was given to offer handicraft instruction so that the children learned to construct musical instruments, airplanes, and radio sets by following lessons presented by radio.¹⁵ Cleveland Public Schools offer broadcasts in handicraft for elementary school children as part of their art studies. In handicraft courses one should emphasize the many opportunities for enjoyable accomplishment. Thus the teacher may encourage the best use of pupils' leisure time in

¹¹ Wayne Claxton, "Creative Art," *Education on the Air*, (1933), p. 131.

¹² James A. Schwalbach, *Teacher's Manual for Let's Draw*, 1947-1948 (University of Wisconsin, 1947).

¹³ *Ibid.*, 1943-44, p. 52.

¹⁴ *Ibid.*, pp. 22, 46.

¹⁵ Dorothy Gordon, *All Children Listen* (George W. Stewart, 1942), pp. 103-04.

making boat models, toys, kites, soap sculpture, wood carvings, and ceramics. Lessons may give actual instruction or may simply promote appreciation through illustrations. They may stress the simplicity of design, fitness of material to function, or explain how a piece of material is turned into a finished article. The child should be made conscious of the importance of crafts in daily life.

Whether or not the teacher has access to an actual instruction or appreciation course, he must remember that appreciation leads to doing, and doing, in turn, to increased appreciation. The two are inseparable. Not all pupil activities in response to art lessons, however, need yield utilitarian results. Utilitarianism is not the object of radio art instruction. While the importance of industrial and utilitarian art should be realized, the pupils should not be fostered in the mistaken belief that every item they create must be functional. On the contrary, children should be encouraged to draw, paint, model, or compile scrapbooks for the sheer joy of doing it. Every effort should be made to preserve and encourage the creative desires of the young. Efforts should also be made to extend the nature and the amount of their experience with art.

Participation and Radio Listening. Despite the several examples of art programs, many teachers do not have access to these broadcasts either for in-school use or for recommended out-of-school listening. Nevertheless, radio still offers the teacher of art multiple possibilities. Almost any effective radio program may be used as a path to artistic endeavor. The American School of the Air has not emphasized art work; yet innumerable examples of artistic response to programs broadcast on the many curriculum areas have come to the attention of CBS program directors.¹⁶

At one time an exhibit was made of some of the many items sent in to CBS in response to the program "Treasure Trails in Art." The articles, some two hundred and fifty contributions, included pencil sketches, mosaics, carvings in soap and wood, and many othertypes of creative work. Many of the participants had never visited an art gallery and few had had more than the most elementary art instruction. It was reported, however, that exhibits showed both vigor and skill. Similarly, the children listening to the Standard School Broad-

¹⁶ "Exhibit of the American School of the Air of CBS," *School and Society*, XLIII (June 13, 1936), p. 810.

casts on music engage in many types of artistic expression as follow-up activity. They draw or paint characters and scenes inspired by the music which releases their artistic fancy.¹⁷ Such examples should serve as an inspiration to any teacher who seeks new springboards for lessons in art.

A news program concerning foreign peoples may cause the pupils to draw pictures about these people and their dwellings. A dramatic program may result in the depiction of scenes and characters. Music may easily lead to artistic expression of emotional responses or mental images. History lessons may motivate the building and modeling of villages in replica, the staging of crusades, voyages, or pilgrimages.

In a series designed for grades three, four, five, and six at Lubbock, Texas, one program, devoted to a pageant of favorite book characters, was designed and presented by some participating fifth grade children.¹⁸ After hearing the review in which the several characters were introduced, the listeners were to select one character to represent by means of a figure cut from paper or starched cloth. These figures were used as markers for books, book jackets, or advertising posters. Some of the best work produced by the pupils was exhibited in a downtown store. This project served as the culmination of two previous art lessons on illustrating figures in action. A teacher might use any program of storytelling or drama for just such a project.

The program described below demonstrates the many uses of a dramatized biographical sketch of a famous painter.¹⁹ One of the "School Spotlight" series of the Board of Education for the Detroit Public Schools, the program was entitled "The Painter of Animals," a drama of the life of Rosa Bonheur. The purpose of the broadcast was to foster understanding of humane education, to demonstrate man's relation to animals, and to promote an appreciation of painting. As preparatory and follow-up activities the pupils were led to discuss the different breeds of horses depicted in "The Horse Fair," the courage and perseverance of Rosa Bonheur as a woman artist of her time, the animal pictures of Bonheur as compared with those of Sir Edwin Landseer. Among follow-up activities suggested to

¹⁷ See exhibit of correlated student activities in *Teacher's Manual for Standard School Broadcast*, Fifteenth Annual Course, Series Eight, 1942-43, pp. 16-17.

¹⁸ Claudine Cook, "Art on the Air," *School Arts*, XLII (January, 1943), p. 179.

¹⁹ Paul Rankin, "Education by Radio in the Detroit Schools," *Local Broadcasts to Schools*, pp. 55-59. We could not include the complete and detailed plans for the lesson.

teachers and pupils was a trip to the Detroit Institute of Art to see paintings by Rosa Bonheur, a trip to an exhibit of Bonheur and Landseer prints, and a program for "Be Kind to Animals Week."

The pupils were instructed to find pictures of animals and to compare them with Bonheur's paintings. Other activities listed were: to draw pictures of horses, to find and read a story about a horse, to list the different types of animals found in pictures, to write a story telling how the horse has contributed to the comfort of men, to read stories about animals (the manual included a list of suggestions), and to write animal stories and make posters showing kindness to birds and animals. This one broadcast, then, offered a multitude of related activities and extensive opportunity for prolonged study and work in many related subjects.

Worth considering here is a series of radio programs presented for pupils in Kanawha County elementary schools in West Virginia.²⁰ Sponsored by the Junior League of Charleston, West Virginia, and the Kanawha County Board of Education, the series was entitled "Musical Pictures." It attempted to integrate two art forms, music and fine arts. The program consisted of two series, one for grades one, two, and three, and the other for grades four, five, and six. The programs were built around such titles as "Toys," "Animals," "Fish," and "Hansel and Gretel." Pertinent books were made available by local libraries. The broadcasters sought to elicit artistic endeavors as the result of listening to musical selections and commentary. One broadcast, for instance, was devoted to "The Sea" and "The Shipwreck" from Rimsky-Korsakov's "Scheherazade." Following the program the children had an opportunity to translate their impressions and ideas into some graphic art form. The emphasis, in the lower grades at least, was upon drawing and painting. Once every six weeks there was an exhibit of work selected from various classes. Each year teachers were provided with a manual of information and suggestions for further activities.

If the teacher of art appreciation does not have access to specific radio broadcasts, he may still look to radio and recordings for aid. For example, listening to Beethoven's "Pastoral Symphony" or

²⁰ Winifred H. Newman, "Musical Pictures — A Cooperative Venture in Radio Education," *National Elementary Principal*, Twenty-Fourth Yearbook, XXV (September, 1945), pp. 50-53.

Debussy's "The Afternoon of a Faun" may lead the way to consideration of pastoral scenes depicted by Corot, George Inness, Thomas Gainsborough, or John Constable. Listening to a broadcast or recording of fairy tales may lead to the discussion or creation of paintings of fantasy and imagination. Stories about Santa Claus may result in the study of Jan Steen's "The Eve of St. Nicholas" or William Hogarth's "The Graham Children." Listening to programs of songs and stories about the Christ Child offers a splendid opportunity for study of religious paintings by Raphael, da Vinci, Tintoretto, and others. A study of churches and architecture, stained glass windows, tapestries, or other creative arts may follow. Such stimulating music as Sibelius' "Finlandia," Smetana's "Dance of the Comedians," or Berlioz' "Roman Carnival Overture" may inspire in young listeners impulses to artistic expression. Radio commentary on sea battles, vigorous martial music, or newscasts may lead to the study of such a famous painting as Turner's "The Fighting Téméraire" or "Calais Pier," or Gilbert Stuart's portraits of famous Americans. Examples are legion.

The teacher can thus use radio successfully for demonstrating that art may be allied to many areas of thought and endeavor. Again and again through radio listening he may illustrate the integration of art with life. Radio is a powerful key to open the way; its possibilities for cultural enrichment and for offering the child a stimulus to artistic appreciation and creative expression are still unrealized.

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Creative Drama

Creative Drama and Radio Broadcasting. Because in-school and pseudo-broadcasts offer perhaps the greatest opportunities for maximum pupil participation, and because dramatic productions constitute a significant portion of all radio broadcasts, it is important to award special consideration to theatrical work in relation to radio and creative arts. "Dramatic play," as creative dramatics is often called, is a prominent part of child play, and the skillful teacher will exploit this form of recreation for educational purposes. Experience with dramatics of any type allows the actor to pretend to be someone else, permits him to assume certain characteristics and qualities that are not his own, introduces him to situations and behavior he could not enjoy in his own life. The challenge of pretending and the pleasure of mimicking, so dear to childhood fantasy, have educational value even when the situations and the purposes of the plays become realistic or didactic. The child as actor is able to enjoy a wide variety of experiences vicariously. Usually the child will engage in these activities for the joy of "play-acting"; he will not consider the underlying significance or the long-term benefits of his recreation. If his experiences in plays and skits are interpreted wisely, however, the participant in learning "how other people do" should gain an extended perspective and an understanding of society and social psychology.

By "creative drama" in the school situation we refer to activity which is developed by thought, study, writing, and production to present an idea by means of a scene or a play. For example, the pupils may elect to write and present a scene illustrating the hardships encountered by the pioneers along the Oregon Trail. Or they may offer a skit to demonstrate the experiences and amusements of a visit to the zoo. In any event, it is wise to let the pupils themselves determine the actors, the theme, the material, and the manner of production. After an idea or situation is introduced and the general outline of the action determined, each pupil decides upon a certain role or responsibility. In the case of a visit to the zoo, for instance, possibly one pupil may pretend he is visiting the lion's cage while another

will be the balloon vendor. Each pupil plays his role as he sees it in relation to the acting of his companions. In some instances there may be only a single performance, unrehearsed, as the spontaneous result of joint self-expression. Sometimes the production grows through many rehearsals and is recorded in writing for permanency. Sometimes the play develops slowly; each rehearsal adds new elements of depth and precision to the production; each rehearsal is an attempt to express ideas and emotions more completely and vividly.

Creative dramatics provide emotional enrichment. Children create from experience, and creative experience in turn leads to more mature concepts. Children build on factual knowledge as well as on imagination and artistic appreciation. Creative dramatics is an activity meriting increased consideration, for it offers a wider exercise of imagination and initiative than does the presentation of plays ready-tailored for juvenile production by professional writers. Moreover, in dramatic play, preparations and rehearsals are as important as the finished and final production.

Creative Dramatics Profit from Radio Broadcasting. Radio with its wide variety of subject matter requires a wide range of talents including originality and a fertile imagination for the necessary research and expression. Some of the many advantages to be derived by the pupils from dramatic play through radio broadcasting must be considered. In much of the work with plays passive enjoyment of masterpieces is the rule rather than the benefits gained from creative endeavor. Listening does force pupils to visualize characters, scenes, and action and to weave the many elements into a single pattern. The listener cannot be entirely passive in following any drama. The mere act of identification with characters and adventures is in itself a creative process. At best, however, this type of participation through listening is limited. Actually appearing themselves before the microphone in their own plays brings students immeasurably greater benefits. The re-creation of a real or imaginary experience molds it into a vivid and permanent part of the actor's life. Presentation of an idea in dramatic form affords a child a certain perspective into an otherwise remote dream world. Dramatic portrayal will also help him to understand the implications of what others do and say. Thus, the horizons of his comprehension expand.

Children have fertile imaginations but easily become sensitive to

ideas and standards established by adults. They soon become dependent upon stereotypes, upon imitation, upon well-trodden paths of character and situation. Experience with creative play may help children to maintain and develop their special gifts of originality and imagination. By requiring the child to explore his own mind to find dramatic inspiration, creative play calls for resourceful understanding and confidence. The pupil cannot rely passively upon the lines offered by another but must be prepared to supply his own language and interpretations. While many youngsters are adroit and facile about re-creating the atmosphere, characters, and ideas originated by others, this single ability is not enough to prepare them to meet the challenge of life. The child must be able to meet and master many kinds of situations and emergencies. Creative drama offers the key to a wide acquaintance with people and their behavior via an easy skill and quick response to myriad vicarious social and psychological stimuli. Thus, exercises in creative drama will be invaluable assets in real life situations.

Creative dramatics allows the child to exercise judgment regarding the genuine roles he may someday play. In school productions of professional plays "type casting" is customary. In plays and scenes designed and presented by the pupils themselves there can be more variety of situation and portrayal. Pupils may direct their talents in several capacities. Each participant must define and present his own ideas, while still learning to cooperate with other children. Nevertheless he is the final authority over his own actions and language. Perhaps much of the subject matter and many of the characterizations the child invents may seem fantastic or absurd by adult standards, but the social benefits of free creative individuality allied with group cooperation are inestimable.

Radio a Useful Tool in Creative Drama. Radio broadcasting is first of use in dissolving the inhibitions of the shy and timid child who abhors what he calls "showing off" before his fellow pupils. Many times a child will hesitate to stand before an audience in any guise. Unable to divorce himself from his own personality by acting, he feels awkward and believes himself to be the object of every critical glance, every derisive remark. If he is doing his "pretending" before a microphone, even the most primitive, so that there is or seems to be a distance between himself and his audience, he may lose his fear and

inhibitions. In some cases, of course, the microphone acts as a barrier to ease and relaxation. Emphasis upon the simulated nature of the broadcast, if that is the case, or upon the fact that the audience consists of fellow pupils only, may help to obviate these fears. The novelty of the medium, moreover, may attract some pupils who would not otherwise be interested in creative dramatics. In any case, radio may help to introduce and cultivate the work of self-expression in creative drama.

Technical Advantages of Radio. Because radio, by means of actual or simulated broadcasts, allows the children to produce plays more freely, it presents many provocative and varied possibilities. Whenever a script is used for production there need be no lengthy memorization. The actors do not consume valuable time committing lines to memory.¹ There need be no spatial or temporal limitations in radio plays, for the scenes may be as elaborate, as diverse, as extensive, as distant, as real, or as imaginative as the pupils desire. The pupils need not be concerned with scenery or costumes or with visual background. Thus, there is the excitement and challenge of creation and performance without the burden and restrictions of staging, memorization, make-up, costumes, or other requirements of formal stage productions. While it eliminates certain elements of rehearsals, the use of radio as a medium for creative dramatics increases other demands: more emphasis must be centered upon striking and vivid characterization, clarity of meaning, direct emotional appeal, and unity of effect. Because there are no pictorial crutches, there must be compensating strength. Language, rhetoric, intonation, and inflection alone must convey the message and its emotional implications. Thus, students working with radio must work for strength and precision.

Radio a Focus and Goal for Creative Activities. We may speak next of the values to be had from using radio in conjunction with creative dramatics in terms of idea and subject matter. Radio programs can open limitless horizons, show all types of personalities, places, and ideas to the listener. On the other hand, radio broadcasting may inspire many an enthusiastic listener to design material suitable for

¹ In many cases the productions are given without a script, but in instances in which the play is the result of rather extended work and rehearsals a script is usually developed to produce some constancy and permanence.

the air waves. To some the magnitude and flexibility of the material is a thrilling enchantment, while others will realize the innumerable possibilities for programs to infinite audiences.

In order to gain maximum benefit from this medium in creative arts, careful guidance is required by the teacher. Questions and suggestions must be planned to assist the pupils to initiate and to maintain high standards of achievement. The teacher faces the responsibility for integration of the information and ideas noted in the many curricular areas and the pertinent content of radio offerings. Many programs have been prepared to stimulate other areas of artistic participation, as we noted in the chapters devoted to music and art. Possibly frequency modulation and electrical transcriptions will increase the attention given to creative dramatics.

While few programs offer a blueprint for dramatic play, inspiration and challenge may spring from many. Dramatics, at least in terms of radio, may be regarded as an art, bridging several areas of experience. Radio does not exist apart from its subject matter.

The teacher may introduce work with creative drama and radio by means of techniques drawn from the so-called "commedia dell'arte," where a specific situation and set of characters are introduced as a basis on which pupils are to improvise a scene or a play. They may test their ingenuity by elaborating the situation and manipulating the characters. Help may be required in the earlier stages of the work, but as the pupils gain in proficiency, they become alert to opportunities and styles of dramatic presentation and characterization. Teachers must be cautioned about one aspect of the *commedia dell'arte* type of work, however, and that is its reliance upon stock situations and personalities. The object of creative drama is to prevent reliance upon stereotypes. Exercises with *commedia dell'arte* should constitute but a part, possibly the springboard for the program, of creative play. Even allowing for the fertile imagination of children in original interpretation, it is unwise to allow them to become dependent upon stock situations and characters, or to be led along uniform paths of thought and behavior.

Our literature, particularly that of radio drama, professional and amateur, is at present trite and stylized. Platitudes, hackneyed situations, and stock characters and language make up the greater number of programs. Originality in pupil productions should be emphasized

in the hope that it will foster intolerance of poor and stereotyped productions and a rise in the standards of professional material. The teacher may point out the way and indicate the possibilities, but pupils must be free to use the full range of their abilities. Since group work is an important part of school experience, the teacher should encourage all the pupils to participate. The novelty of radio as a medium, its great variety, its advantages in simplifying dramatic production, make it an ideal medium for youthful fantasy.

Creative Subject Matter Almost Unlimited. The program to which the pupils listen may be an exacting historical drama of a specific period or a story from Grimm. Programs may introduce a scientific discovery, historical personality, a contemporary hero. Radio offers infinite subject matter to be dramatically interpreted. Of special significance in this regard is the *immediacy* of the material. Radio publicizes the very latest world happenings and discoveries. Norman Corwin's "On a Note of Triumph," for instance, is a remarkable example of a creative response to a great event — V-E Day. Listening pupils may be inspired by such a broadcast to their own creative efforts.

While any area of information may be used as an impetus, we should cite specifically the social sciences and the language arts as fields particularly adapted to work in creative play. Let us take history, for example. Often a certain period of history will be so interesting to pupils that they may wish to enact scenes about the situations and the characters depicted. The teacher may indicate opportune material, but as a rule the lessons themselves will suggest rich possibilities. By means of group cooperation in building scenes around a specific historical person or circumstance, pupils will gain an increased appreciation of other days and historical characters. A historical era assumes true meaning and color it could never have attained through mere textbook lessons. Radio programs are abundant in the re-creation of other times and peoples. The popular "Cavalcade of America" is one program woven about wide panoramas of time and people. Other popular programs of this genre include "The American Story," "Pacific Story," "The World's Great Novels," "Wilderness Road." There are many programs of local origin which delve into regional history. "The New China," a series describing contemporary conditions, is used by several school systems.²

² Used by the Chicago Public Schools and the Portland, Oregon, Public Schools.

Similarly, "America's Heroes," broadcast to Chicago Public Schools, introduces the listener to the rich past of our nation. "Chicagoland" deals specifically with the heritage of that city, just as "Wisconsin Stories," a part of the Wisconsin School of the Air, describes the land, the people, and the cities of Wisconsin.

The language arts, too, may benefit by means of children's access to creative dramatics via radio. Any use of language for self-expression, either one's own language or another's, helps to augment understanding of speech and its uses. In attempting to present the picture of another period or personality, the child is confronted with the potentialities of expression and the many nuances and connotations of words. He sees language as an index to personality and period. Later if he is required to define and use the new words himself, as in creative dramatics, he learns more than by employing the same words and expressions supplied by a professional playwright. Language is thus demonstrated, especially by historical plays, as a changing phenomenon, an expression of both time and personality. Pupils must learn to adapt themselves to the language patterns of many eras and situations. This need encourages thought, tolerance, and flexibility.

The teacher may look to radio to offer a broad panorama of language. In in-school radio productions by the pupils, beauty of language as well as content should receive emphasis. Radio is especially adapted to such training since it is so dependent upon speech for meaning and impact.

Creative Drama Leads to Discrimination. Creative drama and radio may furnish background which will lead to more discriminative listening. The more a pupil endeavors to express himself by original work, the more critical he becomes of the productions of others. By practicing self-expression through radio broadcasts, he practices certain techniques and values which will enable him to evaluate the material to which he listens. While he becomes more tolerant, learning how difficult it is to achieve certain effects, he also becomes more critical and discerning, for he learns what can be done and what standards should be met. Thus, the relationship between listening to radio and engaging in creative dramatics is very close. The more the pupil listens, the more he is stimulated to creative activity; and, conversely, the more creative work he achieves, the more discriminating

he becomes. Radio listening should, if properly directed, stimulate creative self-expression. Surely guided experience of any art form should augment understanding and foster appreciation. Opportunities afforded by pupil broadcasts should point toward the goal of achieving creative experience in the world of real life and of educational drama.

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Creative Dancing

RHYTHMICS AND DANCING are creative activities incorporating certain aspects of both drama and music. While rapidly gaining attention and importance in all grades, dancing and rhythemics are most emphasized in lower elementary grades. Certainly the possibilities of these activities are by no means limited to the imaginative effort of primary grade children. Often creative dancing is taught as part of physical education; however, it extends beyond mere physical release and gymnastic activity. Creative dancing offers a medium of bodily expression, a way to the interpretation of ideas and emotions and the depiction of people and of situations. Ideas meriting interpretation through coordinated bodily activity may be derived from the rich harmonics of the music which accompanies the dance or from other allied sources. The keynote to the dance lies in its individual mood and purpose. While learning fundamentals of bodily movement and control, meter and tempo, children express their individuality through gestures, attitudes, and posture. Better results are achieved through pantomime than by specific dance patterns. Dance pantomime is readily adaptable to the dramatic portrayal of characters and the acting of moods and adventures.

Creative Dancing Interprets Diversified Ideas. Obviously, training in creative dancing cannot be offered by radio, for lessons must be both visual and kinesthetic. Nevertheless, the radio can and does offer stimuli and provides necessary background. Music heard on many programs may provide images and ideas for creative dancing. Stories listened to over the air may lead to rhythmic and interpretive movements.

The instructor may use various programs to provide impetus for pupil work. Young children may listen to a specific program of stories and then react by certain simple and responsive dance activities. For example, in telling the adventures of a little boy and a little girl in a visit to a toy shop, the narrator or teacher encourages the children to skip gracefully, to reach up to put a doll on a shelf, to pick up another doll from the floor, to pretend to be a French doll and walk very straight, to pretend to be a Jack-in-the-Box, and so forth.

The children may describe in dance the movements suggested by "The Golliwog's Cakewalk" (from "The Children's Corner" by Debussy), "Entrance of the Little Fauns" (Pierne), or "Knight of the Hobby-Horse" (from "Scenes from Childhood" by Schumann). Simple as these activities may be, they are preliminary aids in building bodily coordination, in introducing opportunities for illustrating stories by means of graceful and coordinated action. Children may try to dance like dolls, imitate the movements of a clock, or simulate walking bears or flying birds.

Youngsters at the kindergarten and first grade level enjoy movement for its own sake. They are eager to imitate the behavior of any animate thing. They like to pretend to be what they have seen or heard about, experiencing personal identification and vivid satisfaction from their skill. Creative dance adventures should be an extension of their own experiences, growing in complexity and scope as they mature. By means of simple activities the children learn the rudiments of tempo, rhythm, and coordination. As is suggested in "Newer Practices in the Teaching of Physical Education,"¹ the study of bread may offer an opportunity for the rhythmic expression involved in plowing, planting, and harvesting the wheat, in depicting the flour mill, the mixers, and the bakery ovens. Examples are endless and may be increased by attention to those things children learn about via radio. With the advent of television in the lives of a larger number of people, further possibilities will appear.

As children mature, they begin to interpret abstract ideas by means of dancing, yet always maintaining individual expression. Advanced pupils may seek to interpret a poem or portray a mood or an emotion. Their subject matter may spring from any one of a number of radio programs: the fear and struggles of people in subjugated lands, the joy of freedom for the liberated, or the imaginative kingdoms described in the music of "Pelleas and Melisande" (Debussy) or "Scheherazade" (Rimsky-Korsakov).

Specific Radio Programs on Dancing. Stations offering school-of-the-air instructions may easily present situations, stories, provocative music, and ample directions for work in creative dancing. When the

¹"Newer Practices in the Teaching of Physical Education," *Newer Practices of Promise*, Twelfth Yearbook, Department of Supervisors and Directors of Instruction (National Education Association, 1940), pp. 172-78.

youngsters must initiate their own movements rather than copy the stereotyped movements of their instructors or fellow students, radio lessons, by their very lack of visual stimuli, may offer the best motivation for individual and original work. Of course, whatever broadcast assistance is provided must be augmented by classroom practice and instruction. Certain steps, specific types of movement and balance, rudimentary exercises and lessons in rhythm and grace, should accompany programs. As the pupils progress and demonstrate increasing ability, more difficult and complex experiments may be undertaken. When a series of broadcasts is devoted to the work, experiences of progressive difficulty and interest may be provided. The Indianapolis Public Schools offer a biweekly program entitled "Primary Rhythmics" for grades one, two, and three.² The purpose of this series of broadcasts is to promote interest in creative dancing and to review the past work given within the classroom. The program brings fresh appeal to juvenile listeners and provides a means of coordinating the work in rhythmics of the entire school system. WBOE, likewise, gives a program offering rhythmic experiences to be interpreted by means of creative dancing, "Rhythmic Activities."³ WHA offers similar classes for juvenile listeners to the Wisconsin School of the Air.⁴ While much of this series, "Rhythm and Games," merely offers instruction for simple games, a sound foundation for creative dancing is established by exercises in bodily control and coordination. Opportunities are afforded for engaging in simple dance routines and for individual dance interpretations. One of the lessons is instruction for learning the Sailor's Hornpipe to the verse and music of "Jolly Jacktar." The pupils listen to the music and the words and interpret them in appropriate dance. Similarly, they learn a simple minuet, polka, and folk dance. They also interpret in dance "Little Boy Blue, Come Blow Your Horn," "Clapping, Climbing, Chumsy Clowns," "Old Witch Has a Party," and so forth. This work of Mrs. Fannie M. Steve and her "Rhythm and Games" program is a preliminary step toward creative dance experiences.

The responsibility of the teachers using such radio programs as those described above is to employ broadcast lessons as points of

² Bulletin issued by Indianapolis Public Schools, January, 1945.

³ WBOE Program Announcement, week of December 18, 1944, Cleveland Public Schools.

⁴ Fannie M. Steve, *Rhythm and Games*, 1947-48 (Wisconsin School of the Air, 1947).

departure for later intensive work with creative dancing. We may look forward to a larger number of programs devoted to providing background and elementary training in creative dance and rhythmic activities.

Folk Music and Legend. The teacher may look to radio and to recordings for examples of folk music and folk legend which suggest creative dance exercise. The instructor may play some musical selections depicting some popular legend or story such as "The March of the Dwarfs" from "Peer Gynt," or "Hansel and Gretel," and then suggest that the students interpret their impressions by simple dance routines. The teacher may have the children listen to "The Hungarian Dance No. 5" (Brahms), "The Spinning Song" (Kullak), "The Shepherd's Dance" (German), or "Marche Militaire" (Schubert). While there are actual folk dances which the pupils may learn, it is better at first to let them work out their own steps. To assist their imaginations, the teacher may display photographs of people and places and may describe the background the music or stories represent.

Music which may stimulate interpretive and original dancing is abundantly available both from radio and recordings. Examples are "Nutcracker Suite" (Tschaikowsky), "Punchinello" (French), "March" from "Aida" (Verdi), "Polly Put the Kettle On" (old English folk song), "Of a Tailor and a Bear" (MacDowell), and "March of the Dwarfs" from "The Lyric Suite" (Grieg). The folk music of almost every nation is also recorded so that the study of peoples and nations may be enhanced.

Music need not serve as the sole instrument. The teacher may read poetry or prose and then ask the pupils to describe the stories in simple dance form. Through studying and emulating folk dances and interpreting the legends of their own and other lands, children may learn how people express themselves through singing and dancing. They will come to understand how different are the rhythms and the habits of the Chinese from peoples in the Belgian Congo, how the Italian dances differ from those of the Negro. Thus, creative dancing serves as a means of communication of feeling and idea, thus acquiring new dignity and importance.

While enjoying the socializing experience which group dancing affords, the means of expression must remain individual. Valuable as it is to practice for skill and perfection, set movements are not to

be encouraged. After the pupils select a subject and work out the general sequence together, each pupil must contribute his own part of the dance in his own manner. In this way, the social benefits of group endeavor may be fostered while the advantages of individual creative responsibility are retained. Thus considered, we realize that creative dancing is one of the most progressive and constructive of experiences. It may spring from any of a million experiences with life and therefore be enriched in substance from the most significant channel of international folkways, radio.

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Creative Writing

IN OUR DISCUSSION of the language arts we noted innumerable opportunities for correlation between radio and increased language facility. Radio implants an appreciation of language skills which may create a desire and a talent for self-expression. Once again, the teacher may lean on selected broadcasts, actual or simulated, as a springboard to creative written work. Radio programs furnish a source from which the pupils may originate their literary work.

Exacting Demands of Radio Writing. Writing for radio demands certain exacting standards and requires certain restrictions. For setting specific standards of clarity, simplicity, vividness, and originality it is unexcelled. Certainly no medium of communication is more demanding. Children must realize that radio programs offer a chance for the expression of ideas almost limitless in number and kind. In considering so many occasions for the written word, the pupils need not imitate what has already been done by radio writers but may find within their own lives and imagination ample material for scripts. They may note the main techniques for radio writing by listening to what is being broadcast; then they may follow their own ideas in creating and developing a script. This will add the color and vitality of originality.

The scope of writing for radio expands through the fact that the youngster may approach an assignment in radio from so many different points of view: restrictions are few, fresh angles, many. The very freshness and versatility of the medium offers challenge and excitement to the young. Because of these special qualities, the teacher may use it to inspire many assignments in creative writing and may relate lessons and suggestions with specific radio programs. The instructor may direct his pupils to listen for special qualities of the radio scripts, for language appropriate to subject and action, for the integration of music and the spoken word, for the types of writing most suitable for broadcasting; in fact, he may make myriad relative suggestions. Not only does this sort of critical listening help to promote the urge for literary expression, but it also encourages more alertness and discrimination. Through work with radio the pupils

will readily notice verbal effectiveness used to create definite pictures, images, and ideas. Reading aloud immediately illustrates the need for meticulous expression, and the sooner the incipient writer realizes this, the easier it will be for him to communicate his ideas effectively. Since radio depends entirely upon aural appeal, good broadcasts demand the highest perfection in phrasing and rhetoric. Inasmuch as the radio listener cannot ask to have the script or any confusing part of it repeated, the pupil can readily see the need for telling a broadcast story clearly and concisely. The meaning and impact of a radio script must be lucid and immediate. There must be no doubts, no half-understood phrases, no indistinct characterizations or fuzziness. To write well for radio broadcasting is to meet the requirements for almost any kind of written communication. Despite all the emphasis upon technique, however, the primary requirement for such creative writing is originality and strength.

Value of Radio Advertising. Much of the substance of the radio program is the commercial announcement. Virtually every program is introduced, interrupted, and completed by advertising. By listening to and analyzing these sales talks, much can be learned about effective writing: clarity of style, emotional and intellectual appeal implicit in various words, phrases, or expressions, simplicity of statement, and the relative value of verbs and other parts of speech. Most of this observation and training will be a carry-over feature of accompanying programs. The alert instructor will exploit even the advertisements for suggestions and observations which may contribute to the child's understanding and discrimination.

Kinds of Writing Suggested by Radio. The attention the teacher gives to various qualities of writing will vary with the maturity of the pupils and the various curricular goals of the teacher. It is better to illustrate good or bad composition than to memorize arbitrary rules of exposition. It is more important to allow the imagination full play than to inhibit the creative processes by elaborate and detailed rules. It is better to point out good professional writing than to condemn the errors and shortcomings of the beginner. The radio, while it should offer high quality on every occasion, presents infinite examples of both superior and poor writing.

While ideal training is based upon individual teaching, listening to radio programs helps create an atmosphere conducive to creative

writing. The children may listen to certain programs in order to inspire their own endeavors. For example, students in the Rocky Mountain area found pleasure and value from listening to the "Story Time Program" offered by the Rocky Mountain Radio Council.¹ Access to the "Adventures in Storyland" program over WSUI at the University of Iowa gave students stimulating and profitable listening.² A wise teacher can put alert listening to advantage by relating it to assignments in writing.

Children fortunate enough to have access to the Standard School Broadcasts enjoy not only music carefully selected and presented but also explanations and discussions and fascinating adventures of various musical characters. After listening, the pupils may choose some image or character the music brings to mind as a starting point for a theme. They may write about the composer, the performer, or the composition (this type of assignment requiring study and research), or they may record their immediate impressions and reactions (this type of assignment calling for spontaneity and an alert imagination).

The pupil may also try his skill at presenting announcements for classroom events, publicity releases, advertisements for school productions and games, sales reviews of favorite books, publicity for school-wide campaigns for the American Red Cross, savings bonds, and safety drives. Then, as the pupil increases his facility, he may undertake more advanced and complex writing for radio presentation. He may write newscasts, commentaries, dialogues, descriptive paragraphs, interviews, scenes, or simple playlets.

As part of his study of short stories, the pupil may attempt to adapt certain tales for radio dramatization or narration. One pupil may adapt a story for one medium of presentation, while another pupil attempts to adapt it for a second medium, and a third pupil competes with both. Each child will be exercising his own creative ability, each learning new techniques and gaining literary facility. The several attempts may be compared. While one pupil may be able to show more appealing work than another, the ideas and efforts of each pupil should be respected. Such exercises will serve to demonstrate the versatility of

¹ *Summary Report*, Rocky Mountain Radio Council, July 31, 1944, p. 5.

² "WSUI Radio Programs Service to the State," *State University of Iowa Bulletin* Number 579, October 1, 1944, pp. 2-3.

radio as well as the infinite number of possibilities of treatment of any one idea or story. Such work affords meaningful consideration of the values of dialogue, of descriptions and characters most important to the action of a story, and of the basic philosophy underlying each selection. The special characteristics for various types of appeal, essential actions and characters, possible abbreviations or deletions for increased impact are all items to be considered in writing for radio.

The creation of dialogue is also a vital part of radio writing. Conversations should be spontaneous and concise; they must portray to the listener both speakers and situations. Constructing and arranging these conversations constitutes an exacting test of ability and skill.

After the pupils have learned some of the essentials of adaptation and have attained skill in the use of written language, they may proceed to writing simple one-act plays, stories, or poetry for radio consumption. They may thus learn pace, repetition, and rhetoric through individual effort. Even while adapting material for radio presentation, emphasis should be on originality, and if the pupil wishes to produce original work at any time, he should be encouraged to do so. The exercises in adaptation are only a means of acquainting the children with the problems of radio writing.

Radio Integrates Creative Writing with the Arts. In relying upon radio as an aid in creative writing, the instructor may emphasize the integration of the arts and should promote unification of all work the pupils undertake. For example, the pupils may consider music as a valuable background for creating atmosphere and for reinforcing dramatic effects. The history the children study, the songs they sing, the music they listen to, the serial dramas they follow, any one of these experiences may touch off the magic spark so that the pupil is eager to offer his ideas, his impressions, and his attitudes by means of creative writing. Since all arts are related, the radio, which combines so many of them by inference and suggestion, is the teacher's logical assistant in developing imagination, creativity, strength and economy of words. Nevertheless, not all the children's work can be presented over the air, even in terms of in-school broadcasts.

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Part V

*Teaching the Social Studies with the Aid
of Radio*

Radio—A Dynamic Social Force

Section I. IMPORTANCE OF RADIO IN TEACHING THE SOCIAL STUDIES

What Are the Social Studies? Traditionally the social studies in the elementary school dealt principally with geography, history, and civics. As emphasis on the social studies in the elementary grades has increased, courses have become more and more fused and boundaries between subjects have been almost erased. Not only has there been an increase in the area of subject matter within each social study, but there has also been an increase in the number of subjects which can be related to social studies. In all the social studies there has been an increase in subject matter within the textbook and a vast increase in number and kind of supplementary materials, such as newspapers, periodicals, pamphlets, radio, and transcriptions. New topics include consumer education, international relations, and public opinion. Citizenship, current events, and community life have also received more consideration than in former years. History is taught more commonly in connection with economic institutions, governmental processes, and human geography than as a separate subject.

The subject matter content of the social studies generally deals with five great social institutions and with the interrelation of human beings as they are connected with these institutions. The five institutions are: government, economic organization, church, family, and community.

Social studies are especially concerned with the dissemination of culture and knowledge which will enable the citizen to practice the art of harmonious living. Harmonious living depends largely on the proper development of attitude and thought processes which control the emotional and moral characteristics of the individual. Cultural attainments, we should remember, do not depend on the actual amount of knowledge we gain but on our ability to use the information we acquire.

Importance of the Radio to Social Studies. Radio is an ideal instrument to use in teaching the social studies. Radio removes social,

racial, national, or religious distinctions. It erases the boundaries of rural and urban communities as well as the geographical boundaries of state or nation. Because of this it is a powerful agency for eliminating national, racial, or religious intolerance. Through entertainment, news, forums, speeches, debates, drama, and the documentation of community and national life, radio can increase man's respect for his neighbor and promote equality and tolerance.

Radio can help to control the new and changing forces of the world by increasing understanding and knowledge. Perhaps one most readily noticeable effect of radio upon social behavior is the trend toward standardization, the creation of a homogeneous population, a population too long diversified by geographical isolation, local interests and concerns, alien backgrounds, and language barriers. America is the cultural result of amalgamation, and radio is hastening the process. Regional differences in attitude, in belief, in language, and in habit are fast being erased.

On the other hand, danger may exist in this tendency toward uniformity and standardization. The average individual often allows the radio broadcaster to do his thinking for him. This possibility must be foreseen and avoided by the classroom teacher who should be well supplied with the materials of instruction, and with a wide and extensive background in theories of economy, public opinion, propaganda, advertising, government, and conservation of resources. He must promote and preserve national unity and yet resist stereotypes of attitude and behavior on the part of himself and his pupils.

Radio Reflects National Public Opinion. Radio can, and does, become a great index to public taste and opinion. The attempt to learn about public opinion via radio is no longer a gross, inexact effort at measurement but has been developed into a real science.¹ Too often, however, radio producers and listeners fail to realize that the popularity survey is frequently indicative of something besides merit. It would be well for us to understand that popularity is frequently the result of deliberate publicity and build-up. Nevertheless, we usually accept it as a criterion of value.

¹ See P. F. Lazarsfeld and F. N. Stanton, *Radio Research, 1942-1943* (Duell, Sloan and Pearce, 1944). Matthew N. Chappell and C. E. Hooper, *Radio Audience Measurement* (Stephen Daye, 1944).

Knowing this, many social and civic organizations use radio as a means of reaching us. Robert J. Landry reports that of nearly two hundred fifty radio stations analyzed one year in the *Variety* Showmanship Survey, it was found that 65 per cent of the stations carried broadcasts to inflate community pride, to praise and to introduce civic personalities; over 58 per cent of the stations had newspaper tie-ins; church programs were presented over 48 per cent; schools and colleges provided programs for 30 per cent of the schedules. Other frequent programs were charity drives featured on 31 per cent of the stations, safety-promoting shows on 28 per cent, crime-does-not-pay broadcasts on 17 per cent, and War Veteran, Parent-Teacher Association, and Women's Club features.² This is the result of a single survey; it illustrates, however, the popularity of the broadcast as a means of reaching a large portion of the public easily and instantaneously.

Organization of the Social Studies Curriculum. Radio, as an aid to instruction, will be effective largely in the degree to which the instructor is able to use available broadcasts in connection with curriculum organization. The form of organization found in the school is apt to be either some form of single-subject organization or some integrated form of subject area correlation.

The division of the curriculum into subjects is the traditional form of organization. The advocates of a subject-organized curriculum maintain that subjects not only furnish a body of coordinated materials psychologically appropriate, but that problems, projects, units, and topics must be freely chosen and worked out within the limits of any one subject. The people who argue for single-subject organization maintain that there are too many irrelevant materials and facts to permit the pupil to achieve a synthesis of knowledge. Too many elements are left isolated, scattered, and unrelated.

The idea of "integration," on the other hand, is opposed to subject division and emphasizes the social study field as a whole—a total field, rather than as isolated subjects which compose that field. Subjects, it is true, are recognized and to some extent utilized, but the boundaries between them are ignored in the process of arranging materials for teaching purposes. In its most radical form, however,

² Robert J. Landry, *Who, What, Why Is Radio?* (George W. Stewart, 1942), pp. 72-73.

integration means fusion or unification where subjects overlap and where the interests of pupils are basic.

Topical Sequence of the Social Studies Curriculum. Wesley³ has listed a most helpful summary of elements found in the social studies curricula of the elementary school. Material for this summary was drawn from forty-five printed courses of study, from the ten courses summarized in the Fourth Yearbook (1934) of the National Council for the Social Studies, and from five of the seven that are outlined in Chapter VI of the Fourteenth Yearbook of the Department of Superintendence of the National Education Association.

Summary of Elements in Social Studies Programs

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| Grade I | Indians, primitive life, pioneer stories, holidays, patriotic songs, the flag, home, school, community, farm and city, obedience, safety, protection, courtesy, children in other lands, weather, sun, moon, stars, earth, seasons. |
| Grade II | Indians, primitive life, early settlers in local areas, heroes of legend and history, the flag, holidays, civic virtues, home, school, community, food, clothing, shelter, communication, transportation, stores, farming, aviation, how the rest of the world furnishes our needs, weather, travel stories, geography. |
| Grade III | Indians, primitive life, local history stories, biographies, hunting, fishing, and pastoral man, coming of the white men, stories of ancient Greeks, Hebrews, explorers, home, school, community, economic needs, safety, cooperation, interdependence, citizenship, maps and globes, life in other lands, climate, physiography. |
| Grade IV | Early American history, the Indians, the westward movement, discoveries, explorers, state history, local history, heroes and folk stories from other nations, early life in Europe and around the Mediterranean, biographies of famous persons, civic habits, local officials, occupations, industries, commerce, a preview of social civics, geography, local geography, state geography, physical geography, types of geographic regions, maps and globes. |
| Grade V | American history, early American history, later American history, local history, state history, historical incidents |

³ Edgar B. Wesley, *Teaching the Social Studies* (D. C. Heath and Company, 1942, Second Edition), pp. 46-48.

and characters from varied fields, explorations and discoveries, European backgrounds of American history, civics, community civics, elements of American economic life, science and invention, public health and safety, United States Constitution, citizenship, transportation, interdependence, geography, local geography, state geography, geography of the United States, geography of North America, geography of the Western Hemisphere, geography of Europe, geography of Asia, Africa, and Europe, life in other lands.

- Grade VI American history, later American history, European backgrounds of American history, local history, state history, ancient and medieval history, biographies, inventions and discoveries, civics, local government, state government, immigration, vocations, taxation, interdependence, industries, home duties, conservation of natural resources, geography, world geography, geography of South America, geography of North America, geography of Asia, Africa, and Europe, geography in relation to history.
- Grade VII American history, early American history, European backgrounds of American history, ancient history, state history, economic history, the westward movement, agricultural America, orientation, social studies (fusion course), civics, community civics, industries, vocations, fusion of civics and history, the United States Constitution, geography, economic geography, fusion of geography and history.
- Grade VIII American history, ancient history, European history, social history, economic history, current history, international relations, social studies (fusion course), civics, civil government, community civics, vocational civics, the United States Constitution, geography, physical geography, commercial geography, political geography.

The Objectives of Social Studies Teaching. The values of life determine what a child should be taught. These values have been expressed very differently according to the occasion and the individuals who formulated them. Values generally agreed upon, however, are: healthful, social, hygienic, and productive relation between the sexes; personal adjustment to society which will lead to a useful, courageous, and happy life; and skill in language, the arts, and sciences. Through radio we can help the pupil to develop an appreciative and sym-

pathetic attitude toward mankind, to develop an understanding of the social and political arrangements necessary to community life, and to acquire sufficient economic judgment to survive in a capitalistic society. No one should assume that radio alone can accomplish this. As an educational instrument which can contribute to the realization of these objectives it is a valuable tool. Fortunately, or unfortunately, radio is a powerful determinant of public opinion. The teaching profession cannot control propaganda broadcasts, but it can train the children to discriminate and to comprehend intelligently what they hear.

Radio can influence us to social thinking; it can develop important social theses, encourage critical thinking, and furnish important information. The responsibility of developing pupil attitudes can be divided between the radio program producer and the classroom teacher. The producer, for instance, must recognize the potential impact of radio in directing listeners toward democratic and humanitarian goals. He must also recognize that radio is a powerful molder of personality and of our social outlook. The implications of those potentialities are so great that national radio companies have employed experts in education and psychology to assist in program planning. The advice and suggestions of classroom teachers are also welcomed, and in addition, protests as well as constructive suggestions from parents have been encouraged. Radio codes have been formulated; government regulations have been obeyed.

An even greater responsibility lies with the teacher. What, specifically, are some of the things a teacher should do to develop desirable attitudes? In the first place, a teacher should try to make pupils aware of their own feelings. It is true that pupils of the elementary grades are too immature to understand the true psychological and physical bases of emotion, but, as in other subjects pertaining to the human body and mind, the teacher can select words and explanations suited to the child's understanding. Thus, by simple and clear words, the teacher may achieve considerable success even with a very young child. Basically, an attitude is a readiness to act in a specific manner toward an object of thought, an institution, or a person. Pupils can be taught the meaning of attitude if it is defined in terms of action, in terms of likes and dislikes, or in terms of personal opinion.

The teacher should know that attitudes are a product of social

experience. They occur in complex clusters around "key" situations, words, and pictures, or around concepts of right or wrong. Attitude acts as an inner directive — a motivating force. It is the wellspring of specific action and meanings, and a reflection of the whole personality of the pupil. When a pupil has a "friendly attitude" toward a radio program he will listen attentively and speak favorably about it. This can serve as an opening for the teacher to guide the pupil to examine his reasons for likes and dislikes. The teacher must remember that an attitude can be changed by an emotional experience. The time required for such change depends upon the strength of the feeling or the intensity of the emotion aroused. This involves a serious responsibility in the choice of radio programs to change attitudes.⁴

Pupils can also be taught to realize that radio affects their opinions. An approach to the realization of this effect can be found in analyzing the various devices used by broadcasters to arouse reactions in the listener. The "stereotype," for instance, is a device which can be recognized by the pupil after a little help from the teacher. Perhaps radio tends to exaggerate the importance of "stereotyped pictures in our minds" to a degree engendering social disintegration. "Name calling" is another. The classification of individuals into definite types should be ruled out. In radio drama, examples can be found where laborers are usually pictured as stupid, Negroes are characterized by uncultured dialect or by menial occupation. Southern girls are stereotyped as "too obviously charming"; schoolteachers are pictured as "finicky" and with sharp high-pitched voices. Stereotypes, too, have been created of the domestic servant, the swearing corporal, the colored preacher, the Semitic tailor, the drunken Irishman, the big-town crook, and the cigar-smoking politician. Undesirable attitudes toward other countries were also created during the late war, by giving Italian, German, or Japanese names and accents to villains or Anglo-Saxon names exclusively to the heroes.

The question of racial tolerance needs especial consideration when we stop to consider the numerous outbreaks of racial conflict between Negro and white or the frequent anti-Semitic demonstrations. Radio, without doubt, plays a positive role in promoting greater tolerance

⁴ If this is true, then the forum discussion, with the logical array of facts and opinions, will not be so effective in influencing attitude as the dramatic skit which permits a particular point of view plus an emotional experience of vicarious participation.

and understanding between peoples of different racial background. There have been programs designed specifically for this purpose. We may note but a few of the examples. At the Ohio State University Station (WOSU) a series of dramas were presented under the title "New World a-Comin'." These programs illustrate the contribution of minority groups to our cultural patterns. Six programs entitled "Freedom's People" were offered over NBC in 1941 giving a dramatized account of the accomplishments of Negroes who have aided our progress in industry, defense, science, and music.⁵ "Brave New World" was a presentation of the United States Office of Education from November, 1937, to April, 1938, with the purpose of sponsoring friendship and mutual appreciation between the United States and Latin America.⁶ The series "Lest We Forget: One Nation Indivisible," offered by the Institute for Democratic Education, was designed to promote national harmony and understanding between the ethnic and social groups in America.⁷ "Music of the New World," an NBC feature of the Inter-American University of the Air, helped to foster tolerance by describing the people of the Western Hemisphere in terms of folk dances, songs, and symphonies.

Even with these commendable efforts to develop better understanding of our people and for their achievements, there is still considerable evidence of intolerance. The general assumption of the superiority of the white race is reflected in many radio programs. The subject matter of these programs seems to concern the problems of the Caucasian race, and very little attention is given to the problems of the Negro or the Oriental. The listener is more likely to hear about Negroes and Orientals when they are in trouble with the law than when they are achieving success or contributing to the society in which they live.⁸

Radio's Influence on Attitudes. The teacher should be skillful in evaluating the progress in desirable pupil attitudes. It is difficult and

⁵ This series is available on electrical transcriptions from the U.S. Office of Education.

⁶ "Brave New World at Work in the Schoolroom," *Secondary Education*, VII (February, 1938), pp. 36-38.

⁷ Available from the Institute for Democratic Education, Inc., 415 Lexington Avenue, New York.

⁸ Two articles worth noting on the subject of racial intolerance and the radio are: W. H. Tymons, "Stereotypes and the Race Question," *Saturday Review of Literature*, XXIX (April 27, 1946), p. 20; and I. Keith Tyler, "Intolerance by Radio," *American Teacher*, XXIV (January, 1940), pp. 22-25.

in most cases unnecessary to attempt to measure attitude effect by radio alone. So many factors contribute to attitude change that it is impossible to isolate any one factor. The following methods have been used by teachers in evaluating pupil attitude:⁹

1. Systematic observation and records of relevant behavior.
2. Casual observation, collection of incidental remarks, and spontaneous reports and writings.
3. Unguided interview (oral or written).
4. Guided interview (informal questioning).
5. Formal questions with simple response choices.
6. Arbitrary scales — formal questions with more complex response-choices.
7. Grading — either of different objects of an attitude or of verbal expressions of different attitudes toward an object.
8. Paired comparisons.
9. Association tests (Responses which people give to the crucial "stimulus-words" may be classified to indicate attitudes; or the respondent may be asked to classify his response with one of the several categories provided).

There have been few scientific experiments to determine the effect of radio programs on children's attitudes. One such study, however, was made by Lumley.¹⁰ Pupils listened to a talk about the city of Denver, then marked a list of words which might be applied to that city. An attitude scale was used and the responses of children were compared with those of children of a control group who had not heard the program. It was concluded that the radio talk appeared to make the children's attitudes toward the city of Denver more favorable.

Section II. PROPAGANDA — INDOCTRINATION — FREE SPEECH AS RELATED TO EDUCATION BY RADIO

Radio as an Instrument of Propaganda and Indoctrination. The radio is a powerful weapon in the diffusion of propaganda, and it is sometimes used as a means of attack against the important basic mores and ideals of our society. Radio is important not only because it can

⁹ The writers are indebted to Arthur Kornhauser's discussion of attitude measurement. *Educational Broadcasting* (University of Chicago Press, 1937), p. 250.

¹⁰ F. H. Lumley, *Measurement in Radio* (Ohio State University, 1934), pp. 220-21.

attract an audience of millions but also because this audience is disposed to believe what they hear over the radio more readily than what they read in the newspapers.

There are two opposing fields of thought regarding the indoctrination of pupils.¹¹ On the one hand, there are those who argue that indoctrination should be avoided because progress in civilization occurs only through change. Indoctrination, they say, will limit us to the status quo, thereby restraining change and progress. They say that it is false to assume that those who indoctrinate know the only truth and the only good. On the other hand, most educators believe that the general objectives of education cannot be accomplished without indoctrination. They have a good case to present. All education, they argue, is a form of indoctrination, and where can better judges of truth and good be found than among the teachers themselves? The pupils are too immature to make important decisions. Furthermore, pupils will inevitably be indoctrinated by playmates, by books and newspapers, by relatives, by movies, and by the radio. Why then should teachers be denied? A united nation requires a unified basis of thought, and as the democratic way of life is our accepted form of government, why not indoctrinate the pupil with love for and devotion to democracy? Such is the philosophy of many educators.

Indoctrination is similar to propaganda in many respects. To many, propaganda implies falsehood. Although such a representation is not conclusive, propaganda can sometimes be a misrepresentation of the truth. Propaganda is best defined as the organized effort to disseminate particular information. Either propaganda or indoctrination may include the technique of influencing people toward one side of a controversial issue. This may involve a prejudicial attitude toward facts on the opposite side. Facts are seldom followed to their logical conclusion; therefore the argument is presented with emotionally charged words purposely used to create a favorable attitude toward one side of an issue. Indoctrination may also attempt to influence through emotional appeal, and usually by a means of disproportionate emphasis on selected facts.

Teaching the Pupil to Recognize Propaganda and Indoctrination. Instruction in the techniques of propaganda is necessary unless our

¹¹ Indoctrination is here used in the sense of influencing a child's thought, belief, or attitude without first presenting him with the facts in an impartial manner.

pupils are to be exposed to exploitation by advertisers, industrialists, labor leaders, and politicians. The very nature of the social studies invites a consideration of those issues about which people have strong emotions. The teacher cannot avoid emotions of his own if he is thoroughly informed in his field; thus it is impossible to avoid indoctrination even if he desires to do so. He cannot present an impartial view on controversial economic, political, and social problems because he has the responsibility of choosing the material to be studied, the books to be read, and the points to be emphasized. Even his intonation is influenced by thought.

Pupils will never have the right to explore controversial issues unless the teacher has the right to present them. There is one important difference, however, between the professional propagandist and the professional teacher. A propagandist will tell pupils what to think, but the teacher will instruct them how to think. We cannot teach the child to avoid exposure to propaganda, but we can teach him to withstand dishonest techniques and devices.

The devices of propaganda are numerous, but fundamentally all of them are designed to appeal to the emotions. The most common of these devices are name calling, testimonial, use of misinformation, pleading, distortion by selection, appealing to the basic human attachments, and avoiding argument. Propagandists usually attempt to associate their appeal with the home, the flag, the child, with God, and with the basic drives of hunger, sex, and self-preservation. Examples of these appeals can be found everywhere — in the newspapers, on the radio, in books and magazines. These are familiar features of radio advertising. They are also used by labor unions, business groups, churches, schools, political parties, and other organized institutions.

Pupils should be taught to reserve their judgment until sources of information are carefully examined. If decisions can be delayed the pupil has a better chance to examine objectively the different sides of the question. Listening to radio programs may serve as a helpful exercise, since the discussion of controversial issues forms the basis for several fine programs. While some of these programs are designed for children, most of the forum series are directed to adults. It is the task of the teacher to reinterpret the information found on these adult radio programs in the light of the child's experience and under-

standing. The superior teacher has the ability to recognize levels of child maturity. He will encourage experiences which will help the pupil to face problems realistically, factually, and logically. Children cannot escape controversial problems presented in conversation, in newspapers, at the movies, and over the radio. They should be trained to understand such controversy.

If pupils can be taught to obtain satisfactory answers to the following questions each time a speaker broadcasts, propaganda will cease to have its powerful influence:

Who is the speaker?

What is his reputation?

Who is he speaking for? labor, capital, school, church, business?

What does he gain if he convinces people he is right?

Does the speaker connect his argument with favorable symbols such as patriotism, home, mother, religion, flag, race, God, etc.?

Does the speaker use any abusive language? any name calling?

There are three things which can be done about propaganda on the radio:

1. Censor all material which is to be presented over the radio by system of license renewal.
2. Meet propaganda with counterpropaganda. Time can be allotted for arguments pro and con about any well-defined issue.
3. Meet propaganda with critical thinking.

It is with the third point that the teacher has a great responsibility, for he can hardly control the first two. As a result of patient and conscientious methods of instruction, the pupil can be taught to gather and analyze facts, to isolate and define problems, to suspend judgment, to arrive at a decision, and then to act in accordance with judgment rather than with the urge of emotion.

Radio Appreciation Demands Consideration of Free Speech. Free speech is an integral part of our democratic life and should be cherished as a privilege afforded by democracy. The continuation of this privilege depends upon the intelligence and education of the people. The political orator, the public-park debater, the barbershop news analyst, the commentator, or the many who address the radio audience are exercising rights afforded by the democratic government under which they live. Listeners to "The Town Meeting of the Air,"

"The Chicago Round Table," "The People's Platform," or "The American Forum of the Air" need not be reminded that the democracy under which we live affords a privilege of free speech in excess of that found in most other nations. Similar programs for and with children have been developed recently. Among them are "The Junior Town Meeting of the Air," "Juvenile Jury," "Youth Looks to the Future," and "Youth Takes a Stand."

Free speech, however, is not an absolute prerogative. No speaker should make statements designed to injure the character or good name of any person. Obscene language must not be used. No person can advocate the overthrow of government by violent revolution. Yet it is a common experience to hear radio commentators make derogatory or insulting remarks about public officials. Many speakers have abused free speech for others while maintaining the liberty they themselves enjoy. Sometimes a sense of responsibility must be forced on those who demand exaggerated rights and powers.

A correlative of free speech is free listening. Theoretically a pupil should have the privilege of listening to what he wishes; still the pupil cannot hear all sides of a question if equal opportunity is not afforded to opposing speakers. Democracy can work only when citizens have adequate knowledge of the issues which confront them and only when they make their decisions in terms of that knowledge. Censorship of speech at the source curtails impartial information, unbiased opinions, and the free exchange of ideas, thereby restraining the functions of democracy.

What limitations should stations put on speakers addressing the public? These are significant considerations when we examine the relationship of the radio broadcast to the pupil. These facts should determine the training we give the pupil for using radio.

Historically, free speech has been a problem to the radio industry not only because the privilege has been abused but because organized pressure groups and powerful individuals have been able to control broadcasts. In one sense, speech broadcast over the radio is not free. Pupils should be taught that what they hear over the radio is still subject to certain forces of censorship. The sources of control are the government, the network, the station, and the sponsor or agency.

Network policy concerning free speech is largely determined by the fact that radio time is limited, and the costs of programing are

so high that it is impossible to allow to everyone who desires to speak the privilege of doing so. The policy adopted by the networks is briefly summarized as follows: (1) no editorial opinions; (2) no time sold on matters of national importance except during political campaigns; (3) when editorial opinions are expressed on a sponsor's program, an equal opportunity should be given to opponents; (4) only bona fide representatives of substantial groups should be given the privilege of free network time; (5) if free time is given, representatives of both sides of the question should share it.¹²

Sponsors have sometimes controlled what is said over the radio during time which they have purchased.¹³ In our American system, stations are supported by advertising revenues. It is therefore reasonable to suppose that those who buy time demand the right to determine what is to be presented over the air.

What, then, is the duty of the classroom teacher in regard to the free speech problem? The writers suggest the following responsibilities for the teacher:

1. The teacher must encourage his pupils to practice free speech in the classrooms. Each pupil should have the inherent right to express his views.
2. The teacher should follow a definite plan in making his pupils conscious of radio propaganda.
3. The teacher must condition his pupils to withstand the ill effects of propaganda.
4. The teacher should help his pupils to develop an appreciation of the "free speech" privilege extended to radio performances. This would include a study of methods of censorship.

Free Speech Related to Classroom Teaching. "Censorship" and "free speech" may seem pedantic terms for children of the elementary grades, but teachers have found that many topics formerly reserved for high school can be modified on the level of understanding of elementary school pupils. The topic or title associated with a subject

¹² Thomas P. Robinson, *Radio Networks and the Federal Government* (Columbia University Press, 1943), pp. 83-84.

¹³ Miss Brindze cites the example of Cream of Wheat fearing that Alexander Woollcott, whom they were sponsoring, would offend the buying public with his outspoken comments. Ruth Brindze, *Not to Be Broadcast* (Vanguard Press, 1937), pp. 110-12. More recently there have been indications that F. H. LaGuardia was dropped by a radio sponsor because of his candid opinions.

for study does not determine its difficulty. Rather, ease or difficulty is determined by the way in which the subject is presented to the pupils. A clever teacher can interest his pupils in many social topics formerly reserved for adults. This sort of teaching is all the more important when we realize that investigations have shown that children are more interested in listening to programs designed for adults than they are in programs designed for them. Free speech is a tenet of democracy. Why should a consideration of its importance be postponed to high school? Although only pupils of upper elementary grades can understand the more subtle forms of tolerance, pupils in the lower grades can be taught to believe in free speech and to enjoy the pleasure and right of giving expression to their ideas.

The beginning stages of free speech appreciation may well be illustrated by the pupils' attitude toward the teacher's opinion. Although in some isolated cases it may endanger the security of the teacher's position, he should have the right to express opinion of any controversial issue that a pupil is likely to hear about over the radio. A first principle under such circumstances is to explain to the pupils that the teacher's opinion is personal and not always authoritative. From this beginning the pupil will soon learn that he himself can exercise the same privilege as the teacher in expressing his own ideas on social issues. Freedom of speech by both teacher and pupil may soon lead to an appreciation of free speech in radio — its benefits, its dangers, and its abuses.

Freedom of speech encourages propaganda. Pupils should be taught that a news commentator, for instance, can slant his selection of facts for an emotional appeal or to flatter and promote his sponsor's interests. Pupils should know, too, that distortion of facts can be accomplished by unfair proportioning of time or by special emotional or religious pleading. Pupils can be taught to recognize why people react to propaganda. They can be taught to think beyond their own feelings of like or dislike for a program or speaker and to seek the basic arguments for and against the issue.

Methods of Teaching Social Studies by Radio. The subject matter of social studies is so broad that no educational radio series can hope to accomplish every objective. The teacher must be a skillful questioner and capable of establishing an atmosphere favorable to pupil development. He must be resourceful in discovering materials of

instruction (i.e., broadcasts, literature, community resources) and in using these to enhance the lessons. Activities used with radio in teaching other subjects can often be adapted as a guide in the social studies. Typical activities which have been successfully used are: discussion (possibly by organizing a discussion group), quiz programs, oral reports, dramatic travelogues, the compiling of radio booklets to include stories of each broadcast with pictures, outlines of material made after the broadcast, or follow-up reading of pamphlets, newspapers, periodicals, or books.

It is impossible to present briefly all the methods which may be used in connection with radio and social studies. Because so much of the material of radio involves discussion, and because only by presenting conflicting views and careful consideration of current and sometimes historical events and issues can radio serve the public efficiently, the discussion method will be considered in some detail.

The Discussion Method in Radio Education. The following list illustrates the techniques which require some form of discussion:

1. Solving problems. For example, the problem is presented and the spontaneous responses of all pupils and teachers are later mimeographed. The mimeographed copy contains facts, opinions, and prejudices which can later be used as a basis for discussion.
2. Democratic discussion technique used in a modified parliamentary form.
3. An excursion as a basis for discussion.
4. The panel and open-forum method.
5. Pupil-teacher conferences and out-of-class interviews as the basis of discussion.
6. A "home listening" assignment to individuals or small groups is excellent as a basis for discussion.

Social studies are particularly well suited to the method of discussion. Some educators propose that it is an ideal plan to use one day for a discussion of background and issues, the next day for reports on outside reading, and the third day for brief discussion of the topic itself. One reason for employing a discussion technique should be to help pupils to form the habit of acquiring information before giving an opinion. Teachers must encourage all the members of the group to participate; individual difficulties must be treated by re-

medial measures. Continuous evaluation of pupil behavior must be made to measure progress. Evaluation should include self-criticism by the pupils themselves. The discussion method also requires a conscious effort to develop a critical attitude toward any subject matter read in print or heard over the radio.

A good discussion requires that the problem be stated and its terms defined. Careful research should follow, including sources and dates. Pupils should be taught to delay judgment and to watch for emotional stereotypes, rumor, and opinion.

A Typical Plan for Using Discussion as a Method of Teaching the Social Studies. First step: MOTIVATION (a) Why should we discuss this question? (b) What other topics should we study before we can intelligently discuss the main question? (c) What are some of the ways we can study these topics? (d) What are some of the materials we need for study? Where can we get them?

Second step: TRAINING PERIOD. A definite teaching plan must be formulated to teach pupils how to take part in group discussion. The teacher must remember that the skills, attitudes, and habits required for participation in group discussion cannot be developed without patience, practice, and experimentation.

A SUGGESTED TRAINING PROCEDURE

1. Have two or three of the more capable pupils gather around the teacher's desk for a discussion. The teacher acts as chairman; the class observes.¹⁴
2. Have class evaluate what they (the pupils) observed.
3. Have another group demonstrate before the class with a pupil acting as chairman.
4. Have the class evaluate their effort.
5. Add more pupils to the group and have further discussion, always to be followed by class evaluation.
6. The best chairmen can soon be detected. These are given special training by the teacher.

Attention may be directed to the examples of the discussion method provided by the radio. Children should be encouraged to listen to the

¹⁴ Some furniture is not movable. In such classrooms only small discussion groups can be used. Only one or two groups should be in session at once. After preliminary training the more professional groups may meet in conference rooms or halls.

programs, both for technique and for content. Actual or simulated broadcasts may be engaged in, either as an initiating or a concluding activity pertinent to the selected problem. Pupils should try to incorporate good radio technique in their discussions.¹⁵

A description of any method is superfluous and at best can only suggest experiments to the teacher. A successful teacher must constantly work on an empirical basis, constantly alert for any method which promises to result in the desired educational objectives.

We have considered the general objectives or problems concerned with the social studies in the elementary school curriculum. In the following chapter attention is directed to specific subject areas.

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¹⁵ A pamphlet of interest to teachers planning to use radio as an adjunct to the discussion method is F. E. Hill's *Student Groups at the Microphone* (Columbia Broadcasting System, 1943).

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Social Studies as Taught by Radio

1. CONSUMER EDUCATION

Radio and Consumer Education. We are living in a world of commerce, and children can gain much information about trade, products, and raw materials by listening to the radio. Unfortunately, perhaps, most of this information springs from advertisement based on the incentive for profit. It is regrettable that much of this advertising is biased.

Radio is essentially an advertising industry. Whether broadcast commercially or as a sustaining feature, a program is usually made possible by the money supplied by those who wish to advertise their wares. The income from the commercial programs pays the way for the so-called public service features, for in order to use the air to advertise, the radio industry must abide by the government's requirements as to the public interest, convenience, and necessity. Superior programs, which are not equaled in high cultural standards by any other radio system in the world, are made possible only by the money paid for the privilege of radio advertising. Fortunately, the more blatant aspects of publicity are becoming less popular. Fortunately too, the social advantages of advertising have been steadily tending to balance the disadvantages. The consumer, for instance, can be helped as well as hindered in his vicarious daily commercial excursions. He can be informed about the existence, the quality, and the location of goods and services.

Advertising is necessarily a marketing process. Instead of setting up a booth in the street and shouting his wares, the modern vendor uses the air waves. When he tells the truth about his commodity, he is offering a service to the public. Often his concern is merely with selling his merchandise, intent only upon financial reward. Radio advertisers recognize children as controlling a potential market. While youngsters do very little buying themselves, their impact on the buying of their parents is great. Sponsors know how to appeal to children. Contests, clubs, and free or nominally priced items are introduced into radio broadcasts in an attempt to capture youthful attention. Children are very loyal to their favorites, be they charac-

ters, animals, or radio clubs, and it is important for the advertisers to "cash in" on this loyalty.¹

Developing a Critical Attitude. Many of the charges made against advertising in the past were well founded. Although instances of flagrant malpractice are not so frequent now, poor taste, special pleading, unwarranted emotional appeal, and the use of clichés and stereotypes are still prevalent enough to attract the teacher's attention to the need for alerting his pupils. The initiative to teach the art of advertisement analysis lies entirely with the classroom instructor.

In the first place, teacher and pupil should understand that advertising is a science. The scientist, the economist, and the psychologist combine their talents to stimulate public taste for special commodities. To a considerable extent radio advertising is directed to families in the lower income brackets. At this income level the youngster may own but one bicycle in his entire childhood, but he will certainly eat quantities of breakfast cereals. This is one reason for the disproportionate attention to foods as compared to more durable goods. It will help a child to view radio advertising fairly if similar facts are pointed out to him. Adult listeners are now bombarded by appeals to buy a wider variety of goods. Radio advertising tends to magnify the trivial. It appeals to us to buy commodities which gratify our vanity and our enjoyment of comfort and ease. In order to clarify his explanation of this to his pupils, the teacher might ask the children to list examples from their radio experience.

Teachers should also show their pupils that exaggeration and overstatement are frequently found in advertising. Brands cannot all be "best." A patent medicine cannot cure all indispositions. Claims as to the health-giving and muscle-producing properties of certain foods do have truth, but still may be misleading. The child must outgrow gullibility; he must not believe that his life and future depend upon his use of one or several specific products unless a physician or some similar authority has so informed him. He must not be overinfluenced by musical jingles nor by the beguiling charm of a paid announcer.

Teacher and pupil should know, too, that the sponsor of a program has a say in the presentation of news and commentary. wishing to associate his product only with agreeable, pleasant things, the

¹ For a valuable discussion of advertising methods and children's programs, see E. Evelyn Grumbine, *Reaching Juvenile Markets* (McGraw-Hill Book Co., 1938).

advertiser may admonish his newscasters to select encouraging reports and disregard the distasteful. He may even attempt to lull his listeners into false security. Moreover, the sponsor likes to integrate his advertisement with the news events. Sometimes they are woven in by incongruous and ridiculous means. The prevalent custom of intruding on news items not only cheapens a program but may alienate the listener.²

The public resents long commercials and listeners have learned to turn off their radios during advertising at the beginning or close of the program. For this reason advertisement is now woven into the program itself. Let the teacher describe this to the pupils; even young children may enjoy supplying examples from their own listening experiences. Such a lesson may help the children to become more alert listeners. They will usually regard radio advertising more critically thereafter.

Developing the Pupil's Judgment in Buying. The consumer needs to be taught what to buy, how to buy, and how to use what is bought. In some cases it is conceivable that the consumer must even be taught what he wants. Nor is the education of the consumer completed when he is taught what to buy. A knowledge of how to use his purchases should be included in consumer education. Yet pupils are exposed to so much advertising that they may live in a world of false standards, glorified aspirations, and extravagant notions. They need to be conditioned against misleading, exaggerated, and distorted advertising propaganda.

Teachers cannot, however, limit the study of consumption of goods to what is learned from radio. Consumer education may well include visits to stores and the conducting of laboratory tests. Such education must be adapted to the community through a study of the local customs, needs, and even the climate. Consumer education should be reserved for an unbiased study of consumption in general, rather than centered on particular products. The consumer is always confronted with an apparently endless variety of competing brands, each of which is claimed to be exceptionally valuable. Education should help him to make a choice.

² NBC is leading the way from the intrusion of advertising into news programs by eliminating the middle commercial from its newscasts. Such a step is worth commending, for it helps avoid some of the coloration of the news by its proximity to advertising copy. See "Message from the Sponsor," *Time*, XLV (March 26, 1945), p. 88.

Nevertheless, radio may offer knowledge of places inaccessible to the child. Desirable as an actual visit to a wholesale house or a market may be, when it is impractical a visit via radio is a valuable substitute. Few documentary programs and few radio visits of this type exist.³ With the growth in the number of stations there should be more time available for such programs. Producers and networks may become interested in the audience appeal of such vicarious journeys. Surely, radio visits to our centers of commerce and the social agencies concerned with our lives would benefit adults as well as the school child.

Radio offers numerous vivid and varied examples of appeals to buy; almost every type of entreaty is made. Instances of both good and bad taste may be readily observed and the teacher may justifiably devote a significant portion of the time to their consideration. More important, he may select radio advertising as a starting point for consumer education. Appeals to buy are such a familiar part of the radio experience of every child that it will not be difficult for the teacher to define advertising, with examples, to the pupils.

Specific Objectives of Consumer Education. Previous discussion has been concerned with what consumer education should do. Next let us examine its specific objectives. Inasmuch as a complete list of these objectives cannot be presented here, the reader is referred to Henry Harap's book, which was written many years ago but which has not yet been surpassed in its statement of specific objectives.⁴

The most typical and frequently mentioned objectives of consumer education are:

1. To buy with authoritative knowledge.
2. To bargain on a plane of equality of knowledge with businessmen.
3. To realize that price is not a measure of quality.
4. To discourage purchase on impulse rather than deliberation.
5. To discourage living beyond one's means.
6. To discourage careless use of articles.
7. To exert influence on government for adequate regulation and on advertisers for higher standards.
8. To translate knowledge into action.

³ There are some transcriptions which offer such experiences. See *Educational Radio Script and Transcription Exchange*.

⁴ Henry Harap, *The Education of the Consumer* (Macmillan Co., 1929).

The greatest share of American income is used to buy food, clothing, and housing. Other expenses, such as outlays for health and recreation, are of nearly equal importance. Choices are as numerous today as in the days of the old medicine show. The selection, purchase, and use of food continue to form a basic fundamental process of economic life. The habits of food consumption are still governed by custom; much edible food still goes into the garbage can, and food superstitions still persist. White eggs in some localities bring higher prices than brown eggs, although no one has been able to prove any difference in food value. People continue to waste money by buying some kinds of food in small amounts when bulk buying is more economical. It is inexplicable why the economic elements of homemaking have received so little attention in education. Choices are made on too little information; purchases are made impulsively rather than deliberately. Careless use is still made of commodities, and advertisements continue to make exaggerated or unfounded claims. Improvement can be made only by proper consumer education.

Indirectly the consumer, in his role of radio listener, has controlled the kind of advertising broadcast over the air. The listener always has the privilege of "tuning out" annoying commercials. The broadcaster wants to know what his listeners want to hear. Pupils should be taught to let him know. If excessive and objectionable advertising causes sufficient listeners to protest, such advertising will soon be dropped. Pupils can be taught to write in to sponsors when they object to certain advertising and when they appreciate the good things on the air.

Another important part of consumer education is the teaching of a useful vocabulary which pupils will hear over the air — words concerned with food elements, nutrition, purchasing, measurement, rent, housing, building, lumber, furniture woods, leather, fuels, lighting; and heating. The teacher can make lists of popular commercial broadcasts, then plan units of work in which pupils can learn the truth about the quality and serviceability of products advertised on the radio. They should be encouraged to establish standards for each type of product; whenever possible, they should also determine the veracity of advertising. While children should be trained in their role of purchasers, they must also be trained in sales resistance. Let them examine the claims of the salesman on the radio. Are his claims

based on scientific data or hearsay evidence? Are they guilty of special pleading? In what way is his product superior to others of the same type? A check list of such questions might be drawn up by individual pupils or cooperatively by the class.

Many public service agencies have actively engaged in consumer education through press and radio. Better business bureaus investigate fair trade conditions. Underwriters' laboratories have freely given advice on fire and accident hazard. Other agencies which have been active in consumer education are the League of Women Voters, the American Medical Association, the American Dental Association, the American Home Economics Association, the Consumers' Research Agency, and Consumers' Union. Occasionally these agencies sponsor special broadcasts.

Unfortunately broadcasts of this kind are sporadic, and it is difficult for the teacher to find regular programs to help him. Some local stations do present special programs from time to time. NBC, in cooperation with the U.S. Department of Agriculture, has a series, "Consumer Time," which answers consumers' questions. When occurring at in-school times, programs of this series may be useful to the teacher. For the most part, however, the teacher must be resourceful in selecting ideas and content from ordinary programs to which children listen or from broadcasts of special events. Informative news broadcasts about current merchandise, prices, shortages, and values may be used by pupils and teacher. Consumer education is an area of instruction which requires perspective over a wide range of experience and information; therefore the teacher is justified in introducing any radio program which will help to clarify his work. Because children begin to buy and to consume at a very early age, this training cannot begin too early. Greatly improved economic welfare can be achieved by proper consumer education begun in the elementary school.

2. RELIGION

Elementary School Pupils and Broadcasts on Religion. The realm of religious experience is one of significant meaning. It is an area of emotional and personal response which resents intrusion. Radio, so often tactless and intrusive, has served to bring religious music and text within the reach of everyone.

The current American policy of discouraging religious instruction in the public schools inhibits such broadcasts in school. The teacher, however, does have a special responsibility for encouraging pupils to take an interest in religious broadcasts in the home. It is now possible for every home in the United States to come under the influence of some exponent of religious truth each week. Religious broadcasts represent Protestant, Catholic, and Jewish faiths and are conducted on a tolerant and reverent basis. Millions of families who do not attend church listen regularly each week. Although the broadcasting industry contributes time for religious programs, some believe that still more time should be allotted to such services. Whether or not some time should be granted religious programs on weekdays as well as Sundays is a question worthy of attention by the radio as well as by the religious organizations which employ it. Religion is a part of the life and culture of every community in the nation; the schools cannot ignore their responsibility to it.

The use of the term "religious" is limited here to church services, religious dramatizations, Scripture readings, religious music, Sunday school services, morning devotions, and religious programs designed for children. The schools, however, can foster religion by considering the history of the churches in the community, or famous churches all over the world, or by a study of church architecture, religious paintings, and sculpture. Whatever the approach, religion should never be controversial. It should consistently aim at sincerity, courage, inspiration, and tolerance.

The policies of different national networks vary somewhat in administrative control. The National Broadcasting Company assigns periods to Catholic, Protestant, and Jewish denominations, and allows each denomination to devise its own broadcasts. NBC offers time only to the major religious faiths, as distinguished from individual churches or small group movements with small national membership. Recognized leaders in their faith offer messages of wide appeal, designed to help the listener to realize his responsibility to the organized church and to society.⁵ Moreover, in February of 1943⁶ NBC, for the first time, established a department of religion

⁵ Spencer Miller, "Radio and Religion," *Annals of the American Academy of Political and Social Sciences*, CLXXVII (May, 1935), p. 135.

⁶ *Time*, XLI (February 15, 1943), p. 86.

to be operated separately from its educational office. The Columbia Broadcasting System gives each denomination an opportunity to broadcast over the CBS network alternately, with preference to the largest denominations.⁷ CBS indicates it will not sell time for programs of a religious type, and that all programs must be constructive in nature. The general policy of the national networks, broadcasters, and most of the churchmen is in the direction of nonsectarianism.

Few radio programs on religious themes are specifically designed for children, despite the fact that the Bible and other religious texts offer infinite material suitable for vivid storytelling or dramatization. Some local stations devote time to stories from the Bible and Bible schools for children, but on the whole this area has been neglected. Inasmuch as children share the radio with their adults, let us note the types of programs concerned with religion which are available.

The most frequent type of program on religion combines an address with music by an organ, choir, or soloist. Dr. Harry Emerson Fosdick and the Reverend Ralph W. Sockman are regular speakers on this type of program. Each network and many local stations grant time for prominent representatives of the different major faiths to broadcast. "The Church of the Air," "The Catholic Hour," and "Faith in Our Time" are among well-known series. Some programs are devoted almost entirely to religious music. We may cite the splendid "Salt Lake Tabernacle Choir" and the popular weekday feature, "Hymns of All Churches." Most managers of stations build programs around addresses by religious leaders and popular ecclesiastical music.

Sometimes dramatizations are introduced to clarify religious themes. "The Eternal Light" presents a play, usually a parable, followed by a short discussion of its implications. "The Light of the World" is a "five-a-week" continued story, relating the events of the Bible. Although there is great elaboration on the original text and the story is emphasized, rather than its message, these dramas do serve to arouse interest in the Bible and to acquaint the listeners with some of its incidents and characters. The popularity of Bible drama would indicate that an audience exists for further endeavors in dramatizing ecclesiastical literature. To be of genuine value as a means of religious instruction, such a series should adhere more

⁷ Spencer Miller, *op. cit.*, pp. 136-37.

closely to the text, and the emphasis should be on meaning and interpretation as well as on adventure and intrigue. Children would benefit particularly from hearing stories and dramas from great religious literature. The lives of churchmen, the history of religious movements, and the stories of those who have believed in different philosophies might be presented. While religious education is not the true province of the schoolteacher, it is in the general interests of public education for broadcasters and educators to explore the area of religious instruction more thoroughly.

The contributions of radio to religion are numerous. Many listeners enjoy hearing programs of their own faith broadcast, and many a nonsectarian has profited from a radio sermon. Although the radio preachers do not proselytize for their own creed nor condemn the tenets of other religions, listeners may learn about the teachings and labors of the major faiths. This experience should help to erase many religious prejudices. In addition to the inspirational value of religious sermons, radio programs have allowed many non-churchgoers to hear ecclesiastical hymns, oratorios, and cantatas.

Broadcasts devoted to religion contribute to the spiritual welfare of the individual and in so doing they provide a public service. Religious broadcasts often interpret the basic principles of religion. Most religious speakers treat those of other faiths with entire courtesy, respect, and appreciation. This same tolerance should be developed in the pupil. No one should attack another religious faith. While the teacher cannot introduce religious programs in the school, he should attempt to promote harmony and mutual understanding by encouraging pupils to listen to the religious programs offered by radio.

3. INTERNATIONAL UNDERSTANDING

Radio Knows No National Boundaries. Radio is an international instrument knowing no national boundaries. Radio can introduce pupils to foreign peoples and acquaint them with their social mores and psychology — privileges which formerly could be obtained only by traveling. The success of our democracy depends largely on how effectively and intelligently our national leaders can deal with other countries. The nations of the modern world are essentially interdependent; basic motives of all peoples are alike, and citizens of one

country share the aspirations, hopes, and ambitions of citizens in other lands.

We may look to radio as a means of furthering the diffusion of national cultures. Radio has the capacity to evolve a world pattern of harmony and understanding. Because of the gigantic scope of World War II and the war broadcasts from every part of the globe, we learned much regarding other peoples. Now that radio broadcasting is established on a regular peacetime basis, there are infinite possibilities of building greater international amity.

What have been the causes of international misunderstanding? Perhaps a cardinal cause is ignorance. The narrow channels of communication have been limited to diplomats who have sometimes been unable to rise above personal prejudice or chauvinism. Language barriers have also contributed to misunderstanding. These barriers have limited the degree of intercommunication among the citizenry and have thus prevented the dissemination of knowledge and information among peoples of different nations. Fortunately, however, radio can often overcome obstacles of distance, national boundary lines, and language.

Radio Used to Promote International Understanding. There is no class, no grade level designated to study international understanding. Training in attitudes toward other nations is a continuous process. It can utilize music, art, geography, history, and literature. The elementary schoolteacher must be alert to his responsibility. With man's invasion of the air through aviation and radio, the world has grown smaller, the need for international harmony more urgent. The child learns early the news of a world beyond him. News broadcasters devote a large percentage of their time to information about foreign people and places, and global news roundups are now a daily occurrence. A significant portion of the questions directed to speakers on forums and round tables and other discussion programs is concerned with international relations. While very young pupils probably do not listen attentively to such broadcasts, these programs constitute a part of the pattern of American listening. When parents listen, the child becomes conditioned to such programs.

The teacher may take advantage of the pupils' acquaintance with other countries and may even use newscasts, world-wide roundups, and program exchanges between countries as groundwork for

further training. Or the teacher may approach the situation through the international aspects of music, art, and literature. Even the earliest fairy tales the child hears from his mother or a radio storyteller are usually of foreign origin; they have been adopted by America. In the early grades, most of the teacher's work will be a matter of occasional reference and discussion. In more advanced classes there may be detailed units on global harmony. Many units may be built around the peoples of different countries. Time can be allotted for broadcasts and transcriptions about other lands. Similar subject matter can be developed and adapted to various levels of maturity.

There are other contributing causes to wars and conflicts between men, but these causes need not be considered here. It is enough to say that a common spiritual understanding between all nations, based upon continuous interchange of ideas and upon familiarity with one another's folkways and social problems, might lead to lasting peace. Radio can help, for it is important as a mold of the social mores of adults and children alike. Social progress must filter down through schools, churches, families, movies, press—in short, through all the agencies of communication. Radio must be a main channel of this vital process.

4. GEOGRAPHY

Geography Especially Suited to Radio Presentation. Geography is the study of the relationship between man and his natural environment. This study includes man's activities in his attempts to adjust to his physical environment. These activities will vary with specific regions of the earth in accordance with climate and natural resources.

As with other subjects of the curriculum, there is always difficulty in selecting appropriate broadcasts and in adjusting programs for a proper sequence in learning. Programs might be produced for use with a specific textbook, incorporating references to exact pages and paragraphs. It is possible, too, for the teacher to choose a given radio program and point out the implications and parallels in discussion, thus adapting each individual broadcast to any grade or course of study. Any program chosen for classroom use should be accompanied with outlines or briefs to be distributed in advance. In radio education, the methods of presentation and the selection of

high points within a program are as important as the theme itself in adjusting to a particular grade level. With the proper techniques broadcasts on art, nature study, and geography can be presented to any grade.

Classical methods of teaching geography consisted in reading a textbook and reciting to the teacher what had been read. States must be "bounded" not only by rivers, bays, straits, oceans, or mountains, but by bordering states or countries. Capitals must be memorized, and the chief exports and imports must be recited verbatim. Newer methods of teaching geography emphasize social and economic relationships rather than the memorization of facts. Geography has become *human* geography. Pupils are taught that climate influences industry, individual gain, and even the economic relationships between nations. Certain physical conditions of the terrain may determine the character of the work done in that region and the financial success of the workers. A stimulating broadcast which illustrated the change in the philosophy of geography was recently made by the Board of Education of Baltimore, Maryland.⁸ Entitled "Geography — Then and Now," it demonstrated classroom methods of teaching the old *place* geography, with its attention to size, boundaries, and names of rivers, and the new *human* geography, which teaches about the same natural features of a country but emphasizes the effect of these features on man and his achievements. With the use of radio, pupils can actually experience the feeling of riding in an airplane, of traveling in a train, or of hearing the cry of street vendors. Pupils can hear travelers relate their own experiences. They can hear the voice of the explorer who recalls the adventures of his life. They learn of the customs and habits of foreign peoples from an individual who has lived with these people. Besides using actuality broadcasts, the teacher may introduce the many fine documentary programs which reflect the lives of people in their environment. The catalogue of the *Educational Script and Transcription Exchange* gives the titles of possible recordings.

Geography by radio also lends itself to correlation or integration with other subjects. An interest in geography can be developed by means of listening to broadcasts of music, for instance. The music

⁸ The script of this program is included in Blanche Young's compilation, *School Radio Scripts*, p. 24.

of any nation may be the outgrowth of its geography and history. Spain was cut off from the rest of Europe by the Pyrenees Mountains; she was not influenced by the current of trade with other countries, and ideas and cultural trends were not exchanged. Spain developed a musical style of her own in answer to her own needs. It was very different from the music which the central Europeans wrote at the same period. As a matter of fact, many programs are now designed in terms of the music of a certain locale. Some of the series of "Gateway to Music" features the reflection of a region in music. Each of the programs of "Music of the New World" took as its noteworthy theme a certain geographical area. Sometimes correlations are offered to help the teacher; more often he must be alert to the possibilities and be prepared to indicate the relationship between music, people, and places.

A foundation for the teaching of geography can be developed by consideration of science. Sometimes a scientific discovery is determined by local geographical conditions. Then, too, the conservation of our natural resources can conveniently be taught with geographical material. Conservation study should include a consideration of our natural resources of soil, timber, fuel, metal, fish, and game. It should also include the conservation of social resources through the prevention of unnecessary relocation of people, unnecessary distribution of goods, unemployment, war, and accidents and disease. These phases of conservation are all closely related to geography. Radio broadcasts often are given in behalf of conservation. These programs can easily be related to a study of geography. While there are some special series on conservation given by schools of the air and local stations, most such programs, sponsored as a rule by special agencies, are seasonal. During the war there were many appeals directed to the saving of human and material resources, particularly during the food emergency. Such appeals may be used to excite interest in conservation and geography, but very often there is no material available at the proper time. Transcription services are trying to meet the need. The *Educational Script and Transcription Exchange* lists among other programs "This Land We Defend." Several similar broadcasts are concerned with conservation, and virtually all of them have value to the teacher of geography. The Detroit Public Schools issue a fine volume listing the various scripts and transcriptions

available to their schools. Among program possibilities listed are "Conserving Natural Resources," and "The Story of John Muir."

Current events and geography are perhaps most closely allied of the social studies. Newscasts and programs about people in different parts of the world are probably the greatest stimuli to interest in geography. It is natural to want to know where an event occurred. The child asks *why* and *how*. The teacher may soon be discussing the physical terrain, the climate, the resources of some region. Of course, there must be some organized system so that the pupils may learn about all parts of the globe, not just those which happen to be most prominent in the news. The scope of newscasting by radio is so broad, however, that every area will be likely to be featured from time to time and may thus serve as the impetus for a lesson or the occasion for a review.

Artificial barriers of hatred can be removed by listening to broadcasts of day-by-day life in foreign countries. Pupils should be interested in a Christian festival in an old marketplace, the music from a café, or the description of a boat race. The habits, thoughts, and activities of alien peoples are also broadcast in regular news reports from foreign shores. In a period of fifteen minutes voices may be heard from France, Italy, Denmark, Australia, Hawaii, and the islands of the South Pacific.

Printed Materials Valuable to the Geography Teacher. Teachers using radio as an aid in teaching geography will find producers most willing to help them. Lesson outlines, schedules, teaching manuals, bibliographies, and suggested visual aids are available. A sample page from the teacher's manual to accompany the University of Wisconsin's School of the Air is given below:⁹

Mexico and the Central American Republics

The Land: The riches of Mexico are pouring into the factories of the United Nations. From the low, hot, fertile lowlands, Mexico sends us coffee, bananas, and sugar. In the hot, dry lands of the north, Mexican workers are raising guayule, a plant from which rubber can be obtained. On Yucatan, the peninsula which projects into the Gulf of Mexico, henequen is raised. From henequen comes material to make rope and twine.

⁹ Rome Krulevitch, *Teacher's Manual for Exploring the News, 1943-1944* (University of Wisconsin, 1943), pp. 41-42.

In addition, Mexico is producing enormous quantities of lead, gold, silver, zinc, and copper, and supplying needed oil.

From the Central American republics — Guatemala, Salvador, Costa Rica, Nicaragua, and Honduras — come coffee, rubber, cinchona, balsa wood, mahogany, and fibers.

The People: Mexico's small army is defending the Mexican coastline, which stretches more than 6,000 miles along the Atlantic and Pacific Oceans. Though these soldiers will not go overseas, they are standing guard on the coasts and on our southern border.

The American dollars Mexico and the Central American republics are receiving for their war materials are helping the countries and their peoples. It is possible that better living conditions will help to unite Mexico's many Indian and Spanish groups, and a new life may be beginning for the thousands of people of the banana-port countries of Central America, whose living has always been so closely tied up with the plantations of the banana growers.

Words to Know:

cinchona	balsa	henequen
dominate	chicle	malaria
overseer	bases	Lend-Lease

Places to Find:

Mexico City	Yucatan	Honduras
Costa Rica	Nicaragua	British Honduras
Salvador	Guatemala	

Explorers AWAY!

1. San Diego, California, one of our greatest naval bases, is only ten miles from the Mexican border. How does Mexico help guard the base?
2. We have no supplies of mercury. From where do we get much of our mercury now?
3. How does Mexico's henequen help make up for the loss of Philippine hemp?
4. Draw a map of the Central American Republics, showing what products we get from each. Use the map of Mexico as a guide.
5. In Guatemala, a service club has been organized by the women for United States soldiers and fliers stationed there or passing through. Pretend you're a flier from the United States spending some time at the club. Write a letter home telling what you do and see.
6. Where does much of our coffee come from? Our banana supply? Why

was it hard to get bananas and coffee during the first year or so of the war? Why is it easier now? How did the end of coffee rationing help people in the Central American Republics?

There follows on the same page a detailed book list for pupils and suggested references for teachers. There is also included a map, "The Riches of Mexico Land."

5. HISTORY

Radio Can Bring the Past to Life. In history and the other social studies there is almost no limit to the possibilities of the radio. Great personalities can be made to live again in vivid drama. Heroes of the past can speak to children, sometimes through school recordings, more often by way of the voice of some professional actor. Nevertheless, hearing the voice of an individual and the sound of past events gives the experience vitality and makes it more memorable than reading alone would do. Characters speaking make words come to life; description becomes action. History is no dreary accumulation of names, dates, and battles; rather the people, places, and events of other years assume the color, appearance, and importance of experiences contemporary with the child. Moreover, radio may create a desire to study the history of human endeavor. The many events clamoring for attention on our broadcasts may capture the attention of the child and stir his imagination or stimulate his curiosity to know more about the background of these occurrences. This will lead him to examine historical foundations.

Genuine intellectual development will begin if the teacher is able to point out the significance of these episodes in terms of the present and future. The annals of history offer radio an endless array of rich educational material which can be presented in the form of drama or music. Skillful professional actors, supported by realistic sound effects, can make historical episodes a vivid and lasting experience to the child. Accurate and artistically presented dramas will provide a basis for questions, for discussion, and for further study.

Pupils need a thorough academic foundation in the culture of their own nation. This does not mean a store of isolated facts and dates. It does entail a genuine knowledge of the defeats and victories of our democratic ideals. Our culture pattern is intricately bound up with

the heroes, the wars, the songs, the legends, and the people of the past. Acquaintance with them will develop insight into the functions of democracy.

A historical incident may be given in many different settings, or a character introduced in several ways. No single interpretation need be accepted as final, whether it be in a recording, a movie, a radio program, or a textbook. Textbook presentation followed or preceded by a pertinent radio presentation which, in turn, is supplemented by discussion influenced by the teacher, makes an effective procedure.

Radio's Role in Illustrating America's History. While the history of every land is significant to the classroom teacher, it is imperative to foster constant appreciation of our national heritage. It is especially important for children to acquire this appreciation in their early years. Unfortunately, our young people are pitifully deficient in information regarding our own civilization, our history, folklore, heroes, ballads — the very fabric of our world. Before we can hope to establish a truly sound and progressive society, invulnerable to forces of disintegration, we must revitalize our own history. Several programs have tried to do this with reassuring results. For example, "The Cavalcade of America" presents a parade of history and historical characters in well-written and expertly produced scripts. Designed to influence the listener to understand the ideals and inheritances that are so vividly a part of our culture, those incidents and characterizations already well known are usually omitted. Fresh materials are sought in letters, diaries, and unpublished memoirs. This increases the program's value as a supplement to teaching. "Cavalcade" broadcasts are unusual in that they select uncommon yet important topics for subject matter; the development of band music in America is an example. Subject matter has also been chosen from historical motion pictures, plays, and books, and from individual achievement.¹⁰

Possibly more accurate as history and also more documentary is the recent series by Archibald MacLeish, "American Story." It relates the saga of America from the actual writings of explorers and early writers. Thus, we can hear the original accounts of the exploits of our

¹⁰ The American Council on Education sells a series of twenty-four recordings of the "Cavalcade of America" programs for both classroom and adult education. The recordings are available in two sizes, 33 $\frac{1}{3}$ and 78 r.p.m.

history. Similarly, many local stations, particularly those offering educational programs, present series depicting America's past.¹¹

The study of music history can be used to increase music appreciation and to teach history as well. The programs prepared by John A. Lomax, the ballad hunter, have human incident appeal in story and song. Authentic American folk music has been presented with realistic explanation and background. The work of Burl Ives and John J. Niles has popularized folk ballads. The American School of the Air also offers some excellent history in its presentations. The subject areas vary somewhat from year to year, but the programs always include broadcasts in American history. For the school year 1945-46 one of five series was "The Song of America." Each week some phase of our nation's growth was dramatized and discussed for listeners.

"The American Portrait" is also presented over CBS. This is a series of biographical sketches of those Americans who have contributed to our pattern of living. "Our America," NBC (1930-39), is an example of excellent radio subject matter. Broadcasts were devoted to various shrines of historic interest such as Valley Forge and the Old North Church of Boston. One of the transcribed series of the "Lest We Forget" programs is entitled "Our Nation's Shrines." This takes the listener to visit the great points of interest in the country. "History Behind the Headlines," a series of broadcasts which originated with the American Historical Association, CBS (1936), is another excellent example. We cite this series, for in it some contemporary event was used as a starting point for a study of the past. The purpose of the program was to indicate the influence of the past on the present. A program of this kind is difficult to plan because each day brings unpredictable news and events.

The History of Other Countries. Not all broadcasts on history are concerned with America's past. For example, in the year 1944-45 the American School of the Air broadcast a series, "New Horizons,"

¹¹ As part of its "School Time," WLS (Chicago) offered a series, "This Is America." The Board of Education of Philadelphia broadcast a series for its classrooms, "American Adventure." The Chicago Public Schools and other cities presented a series, "America's Heroes." At one time the Chicago schools offered a program about regional history entitled "Chicagoland." The Wisconsin School of the Air recounts local history in "Wisconsin Stories," and the University of Michigan presented (1944-45) a series concerned with the early history of the state, "Michigan, My Michigan."

on the history of the major nations. "Pacific Story," NBC, described the past of the different countries in the Pacific area. There have been few series on history per se. Broadcasts describing the background of some foreign power are likely to be sporadic. More often the data is given to highlight some news event. Because there is need to relate past and present, perhaps this is the most logical approach.

6. CURRENT EVENTS

The teaching of history by radio encourages a pupil to look to the future rather than to the past. History in the making, however, is presented by radio broadcasts of current events. By including broadcasts of current events in the curriculum, the teacher will keep pupils aware of the changing world and encourage thinking about present affairs as they spring from the past. The activities of governments, the transactions of banks and business establishments, reports on crime, unemployment, and strikes, and the activities of prominent people are daily reported by radio. Elementary school pupils can thus be interested in the news of their community, state, and country. At an early age it is possible for them, with proper encouragement, to develop an interest in politics, literature, science, and other fields of human interest. News interest in happenings outside the immediate community was intensified by World War I. Accordingly the agencies of communication become important, and the nation's interest in world affairs was extended. It was about this time, too, that motion pictures began to give the individual an increasing sense of participation in national affairs through newsreels, travelogues, and documentary films.

Since the first scheduled news broadcast no listener has needed to be isolated from world information. From the simple news broadcast the radio industry has developed a mighty system of communication. Newscasters are assigned to all major centers, and a host of roving reporters travel the world.

When the pupil understands the foundations upon which our social institutions are built, his personal attitudes and loyalties will rise above the dogmatic and the emotional. His judgments will not be hasty; he will be sensitive to change and growth. Although there are various points of view regarding the proper sequence of historical

subject matter, the writers are convinced that the most effective method is to teach history "backwards" by starting with current events. Past occurrences should be selected by the teacher as related to contemporary happenings. Through discussion of the processes of history, the pupil should be stimulated to fresh thought and interest in the future.

At the teacher's discretion, those historical events which have been studied in relation to current news can be placed in their chronological sequence. Teachers may make effective use of the "time chart" or "date line" for this purpose.

There is no special grade at which to begin the study of current events; but the teacher must adjust content, vocabulary, and time allotment to the pupils' level of understanding and to their attention span. The system of teaching current events as a subject in the middle grades has increased greatly in recent years. In some schools they are taught as a separate subject for which definite periods are allotted, but generally they are systematically integrated with other subjects or receive incidental treatment.

Newspaper and Radio as Rivals in Teaching Current Events. The rivalry between newspapers and radio has been marked, but should only indirectly affect the use of radio in the classroom. Because textbooks cannot serve as sources of information on contemporary events, both radio and newspaper are useful aids in classrooms. As media for teaching current events, neither the newspaper nor the radio should be used exclusively. Often it is profitable to supplement radio listening with newspaper reading. Lack of radio time prevents detailed news digests. Thus radio may be used to supplement information obtained from newspapers and periodicals or to motivate additional newspaper reading. The radio cannot compete with the newspaper in documentation, in interpretation, or in pictorial illustration. The newspaper can develop more comprehensively the economic aspects of our national life, and it can grant more space to religious news. Far more important, it gives more comprehensive local and state information. On the other hand, radio is considered the most important single source of news. Young people prefer it to newspapers.¹² In fact, most listeners seem to prefer radio to newspapers.

¹² Paul Lazarsfeld, *Radio and the Printed Page* (Duell, Sloan and Pearce, 1941), pp. 250-51.

The reasons given by listeners for this preference are: (1) news from radio comes much quicker, (2) radio seems briefer and less confusing, (3) radio makes better and more entertaining summaries, (4) one can work and listen to the radio at the same time, (5) it is easier to listen to the radio than to read, (6) radio is less expensive, (7) radio takes less time, (8) radio is more complete, (9) radio is fairer.¹³

Editors and Commentators. Newspaper editors and radio commentators are said to do the thinking for the public. The listener, it is argued, is not intelligent enough to draw conclusions for himself. Certainly there should be no objection to a person's listening to the views of an expert in current affairs. The listener should be encouraged to listen to several commentators, or to read several editorials, in order that he may make judgments of his own through comparing and contrasting many different points of view. Teachers should direct their pupils to select various editorials or radio broadcasts on a subject and to follow these selections with careful review and discussion in order to arrive at a logical conclusion.

Although a large proportion of broadcasting time is devoted to news, very little of that news is directed to children. The vocabulary of the average news broadcast is not appropriate for children, nor are there adequate background explanations. Although children are potentially interested in world news, too many current children's programs are completely alien from reality.¹⁴ Some experiments in realism are worth noting. One effective program broadcast three times each week during school hours, which might be adapted by other communities, is "Schoolcast."¹⁵ The program presents a news commentator who discusses current events for children and answers questions they have submitted. The University of Oklahoma presents "Youth Looks at the News," an afterschool feature, to foster an understanding of state, national, and international news. The Board of Education of New York City has given a series of news summaries for elementary school listeners. The director described current events and introduced children as guests on the program.

Although many advantages of radio as a medium for conveying current events have been cited in foregoing paragraphs, it may be

¹³ *Education on the Air* (1940), p. 160.

¹⁴ Dorothy Gordon, *All Children Listen* (George W. Stewart, 1942), p. 72.

¹⁵ For a description of this program, read M. Drury, "How Children Can Get the News," *Good Housekeeping*, CXXI (October, 1945), p. 24.

helpful to mention other specific advantages as indicated by teachers. In the first place, authorities report that most pupils become acquainted with current affairs largely by listening to radio.¹⁶ In those communities where children do not have ready access to daily newspapers or to newsreels, and where they do not hear timely matters discussed at home, the radio can be a most significant channel of education and cultural influence.

The teacher must realize that while his radio is a supplement and aid to his teaching, it cannot assume the entire task of instruction. In the teaching of history, especially, the teacher must provide the setting and the follow-up to guarantee that the radio program will fit logically into the subject matter of the curriculum. Programs presented in a series have the advantage of a planned sequence, but even with these the teacher must still do the work of adjustment. Good teachers can create atmosphere for a single program just as easily as they can create atmosphere for an organized series. Regardless of whether programs are presented in a series or singly, news programs must receive adequate preparation and documentation. Causes and effects are important to perspective.

Methods of Using Radio Newscasts. A general report by teachers on the use of news broadcasts in the classroom listed the following helpful suggestions:¹⁷

Use of Newscasts in 5-A Reading Class

Purpose:

- To encourage at-home listening to news commentators.
- To encourage the finding of important news items in daily papers for use on bulletin boards.
- To supplement social studies programs by the use of current events
- To develop a radio-listening vocabulary.

Class presentation before the broadcast included the listening to a favorite news commentator at home the night before, and then finding the items discussed by the newscaster in the evening papers. All the important news items brought in were placed on the bulletin board. Through discussion of the news of the day, the class was prepared to expect that certain per-

¹⁶ Claude C. Lammers, "Sources of Pupils' Information on Current Affairs," *School Review*, XLVI (January, 1938), pp. 32-36.

¹⁷ "That's News to Me and Other News Broadcasts — Upper Elementary and High School, 1944-1945," Radio Council, Chicago Public Schools, TN-3.

sons, places, events, and issues would be mentioned in the "in-school" broadcast.

After the broadcast a student leader called for answers to the following questions:

What news did the broadcaster tell us that was expected?

What *new* news items were mentioned that we didn't expect?

Did the broadcaster use any words that we'd like to add to our radio-listening vocabulary?

Which news seemed the most important? Where was it placed in the broadcast?

Many activities were developed during the course of our listening to news broadcasts. Some of these were: independent reading of newspapers, magazines; development of radio-listening vocabulary; acquaintance with style and speech of commentators; scrapbooks and bulletin board items were brought in; written work was done by the children — news quizzes and stories for school newspapers; impromptu impersonations of commentators; more critical listening and thinking.

Adjusting Current Newscasts to the Curriculum. The task of adjusting the broadcast to the curriculum, the integrating of the material with preceding learning and with learning that is to follow, will be the teacher's responsibility. A primary objective is to develop a lasting and intelligent attitude toward news in general. A second objective is to aid the pupil to realize that the news of commentators may be largely colored by personal opinion and conjecture. Pupils should check radio news with newspaper accounts of the same news items. Radio news should not be repeated as fact but as reporting.

The most frequently suggested activity used by teachers is the reading of newspapers and periodicals as a follow-up of the news broadcast. The listening period is generally followed by discussion and the attempt to relate textbook material to what has been heard over the radio. This involves selection of certain special topics. Standards should be established for judging a good news broadcast. Pupils should be given considerable practice in applying them. News is closely related to propaganda; therefore care must be taken to train the pupils' critical faculties.

Some teachers encourage pupils to exercise judgment by selecting those news items and stories of the week which will probably be most significant in determining the course of future events. Students can

also be taught to compare the interpretation of a newspaper editor with that of a radio commentator. Another suggestion is to have the pupils "play" commentator just before the broadcast. The mock commentator is chosen at random without notice, so he must have the facts at his disposal.

Further possibilities for pupil activity connected with radio news can most conveniently be presented in a list:¹⁸

1. Write newspaper articles for the class or school newspaper (including editorials).
2. Make outlines of the news broadcast.
3. Use a "news item" map. Pin a small flag on the spot where the news item occurred. Develop geographical familiarity with where the important event occurred.
4. Use class discussion of cartoons.
5. Make a news scrapbook for news clippings.
6. Report on news broadcast heard out of school.
7. Use an "information please" type of activity, where "experts" are quizzed by the class.
8. A "question box" can be filled with questions and answered after viewing the broadcasts.
9. Pupils may draw cartoons about the events.

Visual aids are especially valuable when using radio news broadcasts for the classroom. Teachers can effectually use pictures, charts, slides, pamphlets, cartoons, graphs, and diagrams. The teacher will profit from time spent in selecting books for supplementary reading.

Units of Work in Current Events Study. Examples of two units are listed in detail in the following paragraphs. Both of them were used for older pupils, but the teacher of the elementary grades can, with some imagination, adapt them for younger children.

¹⁸ The writers have taken many of the suggestions noted here from Kimball Wiles, "New Ways of Utilizing News Broadcasts," *School Review*, XLVII (September, 1939), pp. 510-14.

UNIT NO. 1¹⁹*Purpose:*

To discover and analyze the listening habits, interests, and attitudes of the community.

Setting the Stage:

1. Set the stage with a display of a variety of radio materials — radio logs, magazines, pictures, books, radio.
2. Discuss radio's part in the war effort in respect to newscast and commentary.

Activities:

1. Pupils interview parents and neighbors, prepare questionnaires, devise a method of reporting and practicing.
2. Each child presents a personal inventory and responds to a questionnaire. (These sources of information as to listening habits and so on give direction to development of the unit.)
3. Reports are summarized for class evaluation. Lists of criteria are made.
4. In-school listening to newscasts:
 - (a) Preparation of the class for the program through discussion and the use of maps and newspapers.
 - (b) Follow-up includes the answering of these questions:
Did you hear what was expected?
What new news, problems, issues?
Which news was most or least important?
What problems can students help solve? How?
 - (c) The class made a vocabulary list and collected maps.
 - (d) Often the discussions were recorded and played back to the pupils so they could determine progress and further needs.
5. Becoming acquainted with commentators:
 - (a) Background reading to discover their merits.
 - (b) Impromptu impersonations — showing style differences, manner of speech, voice quality, tempo, emphasis, emotion, presenting data, stating opinion, etc.
 - (c) Students prepare criteria for newscasters and commentators.
6. Home listening is reported. Considerations are:
 - (a) To know what to listen for.

¹⁹ Emily C. Leonard, "The Use of Newscasts and Commentaries in 8-A English Class," *Journal of the Association for Education by Radio*, II (March, 1943), p. 3. This is a short summary of this unit.

- (b) Supplement and assimilate information by means of reading, discussion, and note-taking.
- (c) Listen attentively without diversions.
- (d) Continuous practice in listening.

Follow-Up Activities:

1. Scrapbooks and bulletins.
2. Writing and production of news and drama scripts.
3. Writing and producing a movie script of the unit.
4. Studying and reporting on special topics, such as press vs. radio or short-wave, emotionalized propaganda vs. scientific analysis.
5. Preparing to commemorate special days.
6. Studying or presenting scripts concerned with current affairs.
7. Evaluating the work of a commentator or newscaster after following his broadcasts for two weeks.
8. Drawing maps and cartoons pertinent to the news.
9. Preparing materials such as letters, captions, announcements, or stories for the local paper.
10. Using and maintaining the equipment — radios, recorders, transcriptions, turntables.

UNIT NO. 2²⁰

Preparation:

1. Class discussion.
 - (a) What local station presents newscasts? times? days?
 - (b) List the newscasters and commentators, their stations and times.
 - (c) Select the news reporter you wish to follow.
 - (d) Be prepared to listen to several commentaries on some current issue or news item so you can compare the information presented, the interpretation, and the conclusions.
2. For the teacher.
 - (a) Summarize main points of a news item or broadcast.
 - (b) What are the criteria for selecting news items to interpret for the class?
 - (c) Emphasize the need for good oral presentation in analysis of news items as heard over the radio.

The teacher may introduce an actual news broadcast into the classroom (live or transcribed) if the equipment is available. Otherwise, the pupils will be required to rely on their home experience with radio.

²⁰ Prepared by Miss Young.

Presentation:

1. Pupils present oral reports.
2. If several are reporting on the same or similar events, withhold class discussion until after they have all reported.
3. Pupils should criticize each other's work for both content and organization.
4. Pupils may discuss similarities and differences between newscasters.
5. Pupils may establish certain standards for news broadcasts and broadcasts in general.
6. Pupils may prepare individually or in small groups news broadcasts and commentaries for in-class simulated broadcasting.
7. Each pupil sets himself a schedule for listening to news. The values of such a study may be five-fold:
 - (a) Directs the attention of children to the extent and variety of news broadcasts.
 - (b) Helps pupils develop an interest in current events.
 - (c) Illustrates one source of keeping acquainted with current events.
 - (d) Helps the pupils in establishing critical standards for news programs.
 - (e) Offers the teacher points of introduction for lessons on history, geography, and so on.

7. CIVICS

The Definition and Objectives of Civics Courses. Webster defines civics as "that department of political science dealing with the rights of citizenship and duties of citizens." This definition fits the generally accepted meaning of civics as it is taught in the schools. Everything that contributes to the child's realization of citizenship is part of this subject. The major objective is to develop the child as an active participant in a democratic form of government. Radio is certainly a most valuable tool to use to accomplish this end.

President Roosevelt's first two broadcasts after Pearl Harbor were heard by 83 per cent of radio owners.²¹ The knowledge of such important political events and world news is important to a democratic social organization. Radio should distribute information upon which public opinion can be based. Comments on issues or news should not lag behind the formation of public opinion and cannot ignore the

²¹ *Time*, XLI (February 1, 1943), p. 36.

fact that current news is often an outgrowth of older news on which the public may have already formed an opinion.

Democracy must stand up under critical examination or it will fall under the attack of a more ruthless form of government. The forum is an excellent democratic means for presenting controversial issues. A forum allows for the expression of a wide range of opinion, whereby the listener is privileged to hear many points of view. Failure to mention controversial political issues does not indicate impartiality. Silence is often a stand in favor of the status quo. Impartiality can be preserved only by allowing free discussion of important issues. No important minority group should be muzzled by exclusion from the radio. Every effort must be made to publicize and balance various points of view regarding events.

It should be remembered, too, that the successful operation of political democracy depends upon the interested knowledge of the electorate. Radio fosters closer contact between the voters and their chosen executives. Radio has intensified public interest in political discussion and in public affairs. Many people who would never attend a political meeting listen to political speeches. National conferences or rallies, nominating meetings, sessions of Congress — all are open to the public as a result of radio.

Public Opinion Influenced by Radio. Public opinion is simply public judgment. This judgment is influenced by slogans, catchwords, traditional beliefs, hysteria, and folkways. Public opinion may be considered as a social process rather than as something static, because it is a changing and developing phenomenon; whatever can influence it is of the utmost significance. The variety of influential experiences brought home to a large portion of the populace by radio is certain to have a marked and lasting effect. It is not up to radio to tell the public what to think or do, but it must furnish information which can be used as a basis for action and thought. In order to form opinions, an individual within the group should have facts and information and hear the opinions of experts and authorities. The classroom teacher has the prerogative of noting significant problems arising in broadcast news. He should encourage his pupils to critical thinking and careful analysis of the information radio brings. The teacher should show the pupil that a news broadcast or a political address does not provide a ready-made solution to national problems. Pupils

should be guided to exercise their higher critical faculties and warned to reject any opinion or attitude that does not bear analysis.

The Use of Radio by Political Parties. Radio should maintain its independence of class or group rule. It has been argued that selling time to political parties is a form of class control in that it limits the radio to those political interests which can pay for the time. If so vital an agency of communication as radio is controlled by any single group, democracy is threatened. No organ of communication should be controlled by vested interests. Politics in the past have been too often governed by prejudice and emotion. However, radio has imposed new requirements upon radio speakers, including politicians. No longer can the politician rely upon old "rant and rave" techniques. His radio speeches must follow a more logical outline. No longer can he depend on facial expression and impassioned gesture for audience appeal. He must be more authoritative than the old-time platform demagogue. Bodily movement, facial expression, and gesture, until television is more generally available, will not affect his radio audience. The crowd psychology so prevalent at a political rally or convention does not influence the widely dispersed radio listeners.

United States Senators and Congressmen are realizing the importance of radio in influencing the electorate. They have become enthusiastic apostles of radio broadcasting. They are alert to radio opportunities for expressing their opinions, and they are frequent members of forum and discussion programs. According to *Time*, those Senators and Congressmen who used radio rooms in the House and Senate office buildings, where equipment was provided to record speeches at a nominal fee, were re-elected.²² These enterprising politicians, accepting the idea of Senator Capper and a recording engineer, Robert J. Coar, transcribed their speeches and sent them home to their states and districts for rebroadcasting to constituents. In the autumn of 1944, Senator Claude Pepper introduced a bill to have the activities of Congress brought directly to the people by means of daily Congressional debates on a national network.²³ In 1947 one of the popular programs was "Coffee with Congress," in which political figures were interviewed at their breakfast tables; the producers must have believed that such broadcasts gave the public a more personal

²² *Time*, XLI (March 29, 1943), p. 53.

²³ *Time*, XLIV (October 9, 1944), p. 41.

view of their elected representatives.²⁴ We may note that there is considerable agitation to bring both governors and the governed into closer relationships by means of radio.

Radio Useful in the Development of Political Leaders. Teaching children about their government should help to create future leaders. One reason for the past failure of our political leadership was the failure to educate a large enough proportion of our populace for the task and responsibility of public office. Another reason was the lack of general interest in political problems. Radio can help to remedy both these conditions, and can in turn educate for leadership. Radio has brought information about national and international politics into the home of nearly every family in America. Radio inspires interest in affairs of state by many different methods. The process of education for political statesmanship should be begun in elementary grades by training and indoctrinating children for their role as citizens, first of the class and the school, then of the community, later of the country and the world. Qualities of leadership should be developed by class activities, sometimes with a radio program or unit of work as incentive.

8. COMMUNITY LIFE

Radio Acquaints the Child with His Community. The child's education is always a product of his environment. Playmates, classmates, associates in church — all contribute to the child's character and personality. The strongest influence on the average child is probably his home, next in importance is the school, and then the community. Educators have always recognized and emphasized the significance of the neighborhood and community, but recent trends show that even greater attention is now being given to these factors. When pupils can be taught to observe the conditions under which society must live and work, when they learn that they will someday participate as responsible citizens in municipal government, then we as teachers can say we have achieved a most important educational objective.

Newer curricular practices emphasize the importance of first-hand experience with community life. It is a familiar sight to see a school

²⁴ *Time*, XLVII (May 20, 1946), p. 71.



Standard Oil Company of California

Development of the Child as an Active Participant in Democratic Government Is Aided by the Radio in Conjunction with Discussion Groups.

bus taking a load of pupils to visit a local dairy or a near-by conservation project. Science classes visit the waterworks, the power plant, and the observatory. English classes go to the city library; arithmetic classes visit the carpenter at work; and civics classes go to the municipal court.

The radio can interpret many community activities to the pupils. Pupils should understand those community enterprises built around basic human needs. The teacher can often make use of programs dealing with local situations, such as agriculture, industry, and recreation: programs about forest, farm, field, factory, oil refinery, sawmill, power plant, park, museum, bakery, and post office. It is in this connection that local stations play their greatest role. While programs nationally released can acquaint the youngster with many phases of community living, only the local station can present purely local conditions. Programs dealing with family life are numerous, though unfortunately most of them are presented in the form of commercial "soap operas" which are not adaptable to school use. While such fine series as "Home Is What You Make It" and "The Baxters" can help the children recognize their place in the pattern of life and also many of life's problems, most such programs must serve commercial and entertainment interests first.

Another useful type of program is concerned with child care, diet, and home economics; other programs with certain vocational topics, such as gardening, dairying, and chicken raising. While national programs can offer interesting general information on such subjects, local broadcasts can offer more detailed information on regional areas.

Much can be achieved by the judicious use of documentary radio; that is, a program, or more often a transcription, which presents a social situation accurately and factually for the purpose of bringing about understanding of certain existing conditions. A documentary radio production is usually graphic and analytical, for it is actually a factual dramatization dealing with living conditions. As a rule, it is ideally suited to classroom use, for it presents situations, rather than proposes conclusions; it offers listeners all the available information so that they may decide the issues for themselves. According to *Education by Radio*, Great Britain has conducted considerable experimentation with documentary radio, selecting as subject matter such

industries as cotton, steel, or wool, and telling the story of each as simply and realistically as possible through various avenues of description — music, interviews, or discussions with management and laborers — all in an attempt to portray the total picture.²⁵ While still an unfamiliar part of our educational technique, documentary radio has met with considerable success in some communities. Station WNYC, for instance, has made numerous experimental broadcasts, trying to show the people of New York City how they live.²⁶ In such a plan the broadcasting is done from a center of community interest, such as a health center, a factory, a settlement house, or a railroad station. Employees at these centers participate, answering questions and describing their work. The announcer describes the scenes, sets the stage for the interview, and comments on details.

With this type of material effectively presented, if we will consider its implications seriously, we may achieve improved social action which would justify the painstaking efforts invested in documentary programs. Such programs are especially valuable to children, who thereby become acquainted with various segments of the government and its functioning, our divers populations, our industries, and the ways in which our people live. If the introduction of the documentary radio program can help accomplish this, a significant step has been made toward better understanding of our world. While the most immediate service is to aid listeners in understanding their community, the idea of documentary programs may be extended to create fellowship between our country and all the peoples of the world.

While considering radio's contribution to school and community, we must recall that it may play a significant role in interpreting educational objectives and practices to the public. This, in turn, should help in the ultimate realization of these goals. Radio is a convenient means of promoting favorable public relations. The specific methods by which this is done have sometimes taken the form of broadcast speeches by the school superintendent, the principal, the supervisor, or the classroom teacher. More often it has taken the form of pupil participation in radio programs. The school band, the school debating teams, the dramatic clubs have all been used to present school activities to the public. Such broadcasts have not only encouraged

²⁵ Philip Cohen, "Documentary Radio," *Education by Radio*, X (May, 1939), p. 18.

²⁶ *Ibid.*

public interest and support, but have also stimulated pupils to attempt expert performance before the microphone. A noteworthy example of a school project designed to bring the community information about itself is the prize-winning series of the Omaha Public Schools, "We March with Faith." A truly documentary series, the programs were developed and produced by school children in answer to their own questions about their community. One broadcast was concerned with the municipal airport. It described the airport and the problems of maintaining service there, and transcribed conversations with incoming fliers and the communication officer. Besides giving a detailed study of aviation, the program also led to the construction of a model control tower.²⁷ Not only did the pupils augment their own information about their community, but they also interpreted certain phases of community life to the community itself. Pupils were also encouraged toward scientific research and toward cooperative planning and production.

A community may be defined as a group of people living together in the same place under the same laws and regulations. The pupil soon develops community consciousness but not always knowledge of his community. The teacher must seize every opportunity to develop a comprehensive knowledge of transportation, communication, government, religion, recreation, and other social or cultural agencies. Through a study of local conditions it is not difficult to broaden horizons of interest and, later, the child's understanding of national and international conditions.

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²⁷ "Omaha Public School Radio Program Rated Best in Children's Field," *FREC Service Bulletin*, VIII (April, 1946).

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Part VI

Radio as an Aid in Teaching Science

Physical Science and Arithmetic

Section I. PHYSICAL SCIENCE

Social Progress has lagged behind scientific progress. The modern conveniences of life as well as its social complexities are largely due to the developments of science. Man has steadily gained such control over natural forces that his span of life has been prolonged, his production of material goods has increased, and his standards of living have been raised.

Unfortunately, social progress has not been able to keep pace with scientific progress. Additional scientific knowledge and skill have not led to corresponding benefits to mankind. Science is a subject of great social significance. The neglected aspects of the interrelationships of social and physical forces must receive more consideration by our schools. It is not too early to begin these studies in the elementary grades.

Study of Science in the Elementary Grades. It is imperative that physical science be studied in relation to its effect on everyday life and that the application of scientific knowledge be directed to the good of man. In a study of the westward movement in American history, for example, illustrations of science can be found in the use of wind to move ships and sawmills, the use of animals for work, food, and clothing, and the early dependence upon the stars for direction. Further examples of the relationship between man and his environment can be observed in the influence of terrain, minerals, and forests on the type and location of homes. The relationships between nations are influenced by scientific discovery. This is brought home to us by the laws and regulations established for the use of poison gas in war and proposed restrictions in the use of the atomic bomb. Similarly, people are brought together more readily by means of scientific advance in communication by airplane, by radio, or possibly, at some future date, by rockets.

The methods of teaching in the elementary grades are gradually taking a new trend. The social effects of scientific developments are now being given more adequate consideration. It should be explained

to the pupils how the discovery of drugs and medicines helps to save lives, how new mechanical devices insure their safety, how progress in the field of electronics contributes to their pleasures. Radio programs bring this current information to the children; radio also introduces the scientists who are making the discoveries and their applications to benefit mankind. Later, emphasis should shift to the need to understand the fundamental concepts of science, the laws of cause and effect, scientific method, and the materials with which scientists work. The pupils may be motivated to study scientific facts and methods, and their interest in conducting their own experiments may be stimulated by listening to well-planned radio shows and participating in various follow-up exercises.

Radio broadcasts deal frequently with such subjects as food, shelter, clothing, transportation, and communication. They present boundless opportunities for showing how science has affected and is constantly affecting the life of man. Many radio science programs are designed to develop an understanding of the significant part science has played in social change and in supplying basic human needs. Teaching emphases in the elementary grades are changing. The social effects of scientific developments are now being given more adequate consideration.

Radio as an Aid to the Elementary Science Teacher. The average elementary grade teacher has not hitherto been prepared to teach science. This lack of preparation is sometimes due in part to the negative attitude teachers have had toward scientific subject matter. They frequently have not had the time or opportunity for sufficient training in science to teach it effectively. While teachers may understand fundamental concepts, very often they do not know enough about scientific principles and their applications to make the subject interesting and authoritative to pupils. Moreover, classroom teachers may not have time to keep abreast of scientific changes and discoveries. The teacher may instruct his pupils in the basic elements of science, but it is the social applications of current scientific discoveries which may create incentive in the child. Radio can tell its audience about the most recent uses and applications. Because of a feeling of inadequacy toward their role as science instructors, teachers have relied too much on textbooks and have neglected to seek functional examples and current information. Radio breaks the monotony of

textbook recitation, especially if the teacher is skillful in adapting broadcast material to the course of study. Documentary radio can compare favorably with an actual field trip or excursion. Often documentary radio serves as an excellent substitute. It is impractical, naturally, for all the children of the Chicago Public Schools to visit the Chicago Natural History Museum at one time. Therefore the Chicago Public Schools broadcast part of their series, "Your Science Story Teller," from this museum. Four students from each school are given tickets to attend the lecture at the museum. The others listen to the program in their classrooms.¹ By rotation all the children may eventually visit the museum. The pupils in the school benefit from the programs, too.

Several problems in the production of radio science lessons are unique. In the first place, science deals with accurate, minute, and explicit data. To insure accuracy it is often necessary and always advisable to consult scientific authority. While the data on radio programs may not be more authentic in detail than are lessons taught by the classroom teacher, the information is usually more current and possibly more vividly presented.

Meticulous accuracy is the keynote of science, and in order to insure understanding not only of the principle, but also of specific data, repetition is usually necessary. This is very difficult to accomplish in presenting radio programs; repetition is readily apparent, and while generalizations may be presented in terms of subject matter without obscuring details, it is impossible to depend on generalizations. Vague concepts of scientific information are useless; definitions and analyses must be specific. It is therefore difficult to teach by auditory experience alone; for efficient results, the radio should always be used in connection with visual and kinesthetic aids.

Because pupils should not assume a passive listening attitude, the teacher must make careful adjustments of science broadcasts which will insure adequate pupil activity. Among the valuable postbroadcast experiences for pupils is directed discussion. This allows both child and teacher to contribute their own information, ask questions, and find new applications for scientific knowledge and method. The amount of appropriate pupil participation has long been used as a criterion of good method. Some excellent radio science programs

¹ "Your Science Story Teller," Radio Council, Chicago Public Schools, 1944.

have met this criterion. In his early programs from Rochester, New York, Harry Carpenter introduced seventh-grade pupils from a different school each week. These pupils assisted with the experiment, engaged in discussion, and brought to other seventh graders, listening in their classrooms, the results of their science observations and experiments.² Listeners to "Young Experimenters" (WHA) are supposed to conduct experiments similar to those described on the broadcast. Every effort is made to keep directions simple so that listeners may follow and reproduce the experiments in the classrooms during and after the broadcast.

Methods Used in Teaching Science with Radio. Radio programs concerned with scientific subjects may be used as the basis of a science course or may be integrated with other subjects. Whether the plan is to integrate science with other curricular areas or to consider it separately, the subject matter is usually divided into units or topics, such as water, rocks, soil, air, fire, and electricity. Experiments and problems to be investigated are suggested for each subject. To solve these problems, pupils must study textbooks, reference books, and current publications; they must conduct experiments, engage in conferences with scientists and be alert to make observations from nature. One of the principal aims of a course in science is to give pupils practice in solving problems scientifically. This experience develops skills in organizing data and in drawing conclusions based on facts. The solution of problems also provides a knowledge of facts and principles of science which is later used in solving new problems.

A conclusion of the success or failure of any method of teaching science must be based upon the amount of pupil interest and activity evoked, upon evidence as to whether or not such teaching results in the development of sound new attitudes and understanding, and upon the extent to which pupils have acquired the ability to do scientific thinking. Radio does not attempt to embrace the responsibility of teaching the total science curriculum. The more successful broadcasts have been those which have dealt with general themes adaptable to short lectures of a scientific nature. These lectures are sometimes given by famous scientists themselves.

The most common method used by radio education specialists is

² Paul C. Reed, "The Rochester School of the Air," *Local Broadcasts to Schools* (University of Chicago Press, 1939), p. 107.

to secure the services of a trained scientist or specialist who can stimulate interest by presenting new materials, by suggesting seasonal natural phenomena for observation, and by discussing simple experiments that can be carried out with readily accessible materials. The secret of such a program is to find a man who can speak with genuine authority from his own experiences. He must be able to bring the basic facts of science to his youthful audience with vitality, humor, and variety. He should arouse his listeners to wish to know more about the subject.

Other broadcasts have been dramatic presentations of the lives of great scientists. Not only does hearing about the experiences of scientists inspire the student, it may also demonstrate the close relationship between need and discovery and the relationship between the scientist and society. Facts and methods of discovery may be incorporated in the story, so that the audience may learn more than the details of a man's life; the story should add to the pupils' store of scientific information. If the teacher selects and uses scientific biography carefully, he may help pupils to form a pattern of knowledge about science.

A wide variety of biographies is offered to the teacher by means of electrical transcriptions: Madame Curie, Walter Reed, and John Fitch are among those whose stories are told in dramatic form.³ Dramatizations of the processes of discovery also exist, the emphasis being on the idea of a process rather than on the discoverer. Other useful transcription series are "Adventures of Research," produced by Westinghouse Research Laboratories, and "Excursions in Science," produced by General Electric Company. Both series are readily adaptable for classrooms, to use in instilling enthusiasm about science.

Sometimes the narrative form of program is used to attract attention. This is common in the programs of "The Human Adventure," a portrayal of man's struggle and progress. In broadcasts of the "Open Your Eyes" series of the Texas School of the Air, a fragmentary story is dramatized as an introduction to the information to be considered. Programs of the "March of Science" series of

³ Biographies of famous scientists are often stimulating material for dramatic shows produced on so-called entertainment programs, for example, *The Cavalcade of America*.

American School of the Air (1946-47) focus upon the dramatization of the life of some significant man of science. Listening to the story of a discovery, an experiment, a process, or a man's life helps the pupil to relate scientific facts and methods to his daily living. If properly used by teachers, the experience of listening to this type of program can demonstrate to the child vast possibilities for his own progress.

Some programs devoted to science forego or minimize dramatization in the interests of discussion of scientific phenomena and experimentation. Such broadcasts are designed to answer certain basic questions and to supply specific information. Most of the programs of the "Science Time on the Air" series (Rochester School of the Air) are designed for the presentation of certain facts in an interesting manner. An understanding of the type of broadcast presented in this series may be had from examining the lesson sheets sent to the teacher. An example is given below:

SCIENCE TIME OVER WHAM⁴

"A Never-Ending Journey"

(broadcast October 11, 1944)

Do You Know:

1. Why water dries up faster when the sun shines?
2. Why many drivers use fans inside their cars in the winter?
3. Why men's glasses steam when they come indoors in cold weather?
4. Why it rains?
5. Why there is always more rainfall in regions that contain forests than in regions that do not?

Broadcast:

This broadcast will contribute to the development of the following concepts and will cover as many of the problems as time allows: Concept B: WATER OCCURS IN A VARIETY OF FORMS ON THE EARTH AND IN THE ATMOSPHERE. Problem 1 — How does water get into the atmosphere? Problem 2 — How is invisible water vapor changed into visible forms? Concept C: WATER IS CONTINUALLY PASSING THROUGH A CYCLE BETWEEN AIR AND EARTH AND IS USED OVER AND OVER BY PLANTS AND ANIMALS. Problem 1 — What is the water cycle? 2. What keeps the water cycle in operation? 3. Why is the water cycle essential to the continuance of life?

⁴ Bulletin for "Science Time Over WHAM," Rochester School of the Air, Rochester, New York.

Suggested Activities:

1. Experiment 1. What causes water to evaporate?
2. Discuss experiences which illustrate evaporation from bodies of water, land, and wet surfaces.
3. Wet a blackboard. Discuss what happens.
4. Observe the kind of day on which clothes dry most rapidly and explain why.
5. Experiment 2. What do we learn about our breath when we breathe upon a pane of glass?
6. Experiment 3. Does a plant keep all of the water absorbed by its roots?
7. (Key) Experiment 4. What causes water to condense?
8. Experiment 5. Through what changes may a drop of water pass?
9. Observe condensed moisture in the form of clouds, fog, dew, and rain. What conditions bring about their formation? As winter approaches, observe the weather conditions which result in the formation of snow, sleet, hail, and frost.
10. Write a poem, play, or story about the adventures of a raindrop.
11. Collect pictures showing how water occurs on the earth.
12. Make a diagram of the water cycle complete with labels.
13. Place a piece of bread under a tumbler and observe what collects on the inside of the glass. Discuss why it happens.
14. Soak some dried fruit like prunes, and show the class how much water is absorbed. Mark the height of the water in the dish at the beginning and again at the end of the experiment.

References: Teacher

Craig, *Science for the Elementary School Teacher*, Chapter I, Science and Elementary Edition, pp. 3-20.

Pupil

Carpenter and Wood, *Our Environment: Its Relation to Us*;
Frasier, Dolman, *How and Why Discoveries*;
Parker, *Clouds, Rain, and Snow*.

Visual Aid:

Silent Film — The Water Cycle

The program of WHA (University of Wisconsin), called "Young Experimenters," is also concerned with the teaching of certain fundamental concepts of exact science, mainly by means of re-creating simple experiments to demonstrate scientific principles and to relate

these facts in terms of contemporary values. Directed to young people in grades five to eight, the series consists of physical science broadcasts which emphasize the practical point of view. Experimentation is used as a basis for building new concepts and understanding. Realizing that lack of equipment is a major obstacle to many experimenters, the program producer, Lloyd Liedtke, has built his broadcasts around the simplest of equipment so that the children may conduct experiments in their own classrooms. Vinegar, paper, corks, candles, and pans are among the articles required. It is suggested that better results can be obtained in the classroom if a group of three or four pupils conducts the experiments than if an entire class attempts to participate at once. The group would do the experiment along with the broadcaster and repeat it later if necessary.

HARNESSING MOTION⁵

Area of Study: Motion

Program 16, January 24, 1945

We Bring:

Watch with a second hand, string, 2 nuts of about the same size, quart bottle half full of water, handful of sand.

Before the Broadcast:

1. Know the meaning of *centrifugal* force, of *centripetal* force.
2. Is the governor of an engine making use of centrifugal force?
3. Which of the natural forces does a ski jumper employ?
4. What is a metronome? How does it operate?
5. How is it possible for trapeze artists to travel along a group of trapezes that normally would be too far apart for a human to reach?
6. Appoint a committee of three or four to perform the broadcast experiments.

After the Broadcast:

1. What forms of motion can be harnessed?
2. What simple machines around the house use centrifugal force?
3. Why is an egg beater hard to get started, but runs rather easily after it is in motion?
4. Why can't these forces be changed into perpetual motion?
5. On what kind of motion does the cream separator work?
6. If your pendulum clock is continuously losing time, how can you make it run faster?

⁵ Lloyd Liedtke, "Young Experimenters" (University of Wisconsin, 1944), p. 21.

7. How are blood corpuscles separated from blood plasma by the American Red Cross?

Experimenting at Home and School:

1. One of Wisconsin's pioneer scientists was Stephen Moulton Babcock, who invented the Babcock butterfat tester. This device, working on the principle of centrifugal force, tells how much butterfat there is in a sample of milk. If you have one of these testers in your neighborhood, perhaps you Young Experimenters might examine it. See why it works on the principle of centrifugal force. *Do not try to do the test as it is performed with a powerful and dangerous acid.*
2. Work up a demonstration of experiments illustrating centrifugal force, inertia, gravity.
3. Observe various ways in which motion has been harnessed. Try to figure out what *kind* of motion has been harnessed.

Chicago teachers have been presented with lesson guide sheets to accompany "Your Science Story Teller."⁶ This series of science programs sponsored by the Radio Council of the Chicago Public Schools was directed to the fifth and sixth grades. The type of program material is indicated by the lesson sheet presented below:

IN OUR SCIENCE STORY TODAY

Broadcast No. 5

Lever

We perform some simple experiments with a ruler, a pencil, a small book and an eraser. Together with Sue and Jim we learn how levers operate and discover that levers play an important part in our playground activities.

Words for Classroom Discussion:

lever, fulcrum, resistance, effort, balance, simple machines

Things to Listen For:

1. How the three different kinds or classes of levers operate.
2. What other simple machines are used.
3. How simple machines contribute to our fun on the playground.
4. How a teeter-totter operates.

Suggestions:

Find out what simple machines are used in the school gymnasium or the park playground.

Construct a model playground or gymnasium.

⁶ *Your Science Story Teller*, Radio Council, Chicago Public Schools, 1944-45.

Experiment with the six kinds of simple machines and determine whether or not they make our work easier.

Make a chart of various everyday uses of the three classes of levers.

A SPECIAL LECTURE IN CONNECTION WITH THIS PROGRAM HAS BEEN ARRANGED AT THE MUSEUM OF SCIENCE AND INDUSTRY, JACKSON PARK, ON WEDNESDAY, MARCH 14, 1945, AT 1:30 P.M. A TICKET WHICH WILL ADMIT FOUR STUDENTS FROM YOUR CLASS WILL BE FOUND ON THE TICKET PAGE.

Evidence of the valuable aid which radio and recordings provide for the science program has been frequently noted. The radio broadcasting of the Rochester School of the Air in the field of science under the leadership of Harry A. Carpenter has been subjected to national experiment. The broadcasts were reduced to ten minutes in length in order that each broadcast might be recorded on regular phonographic discs. In 1939 these recorded science talks were given in seventy New York schools. State departments of education in other states were asked to select two or three schools where these recordings could be tried experimentally. Results of the entire experiment, therefore, represent a wide distribution of children from Massachusetts and New York State to North and South Carolina, Texas, New Mexico, Nevada, and Minnesota. Forty records were produced and the series was to be presented at the rate of two each week over a period of one semester. Over two hundred letters a week were received by Carpenter concerning these broadcasts.

As a brief summary to the experiment, it may be stated that approximately eleven thousand children and their teachers completed a successful semester of science aided by recorded sound. A very large proportion of the teachers report that the records promoted interest in the children. As evidenced by the enthusiasm with which they carried on not only class-work but also the suggested activities outside of school . . . (Results indicated by the science interest test:) that on the whole the children liked the items better at the close of the experiment than at the beginning, and that there was less indifference to them. . . . These data indicate increased "likes" for experimental work and less indifference. In conclusion, it may be stated that, based upon all available evidence, the science records appeared to be a desirable aid to the teaching of science in the following ways:

1. Increased knowledge of facts.
2. Improvement in attitudes of understanding and appreciation.

3. Improvement in scientific skills, including use of the scientific method.
4. Increased interest in scientific things and better discrimination.
5. Improvement in teaching method.

There is also considerable evidence showing that the records were valuable as a means of training teachers in service.⁷

The Evaluation of School Broadcasts Committee studied the effects of the "Science Story Teller" on the pupils in the fifth and sixth grades. Both in information and attitude, the pupils who heard these broadcasts scored significantly higher than did pupils in the control group, who did not hear them. The differences in the progress occurred in the fifth grade, for the most part. Results of the tests also indicated that the amount of time devoted to their use had a significant bearing on the development of pupils' interest in conservation, one of the objectives of the series, and on increase in general interest in science. The more time spent on the programs, the better were the results.⁸

The study of science in the Philadelphia schools has been vitalized by the broadcast series, "Science Is Fun." Designed to stimulate interest in science, stories and biography are dramatized, and simple scientific experiments which can also be conducted in the classroom are included. The narrator is "Egbert, the Mechanical Man," from the Franklin Institute. The children have responded enthusiastically to the program, as evidenced by a significant volume of fan mail on the program, an increase of 89 per cent in the visits by children to the Franklin Institute since the program's inception in October, 1944, and a notable increase in the number of books on science taken out of the Free Branch Library by children since the beginning of the programs.⁹

Radio can best be regarded as a supplementary teaching agency which can instruct teachers as well as pupils. Benefits to teachers may include suggestions for lesson organization as well as additional scientific information. Radio programs can stimulate pupil partici-

⁷ Harry A. Carpenter, "An Experiment with Recorded Science Lessons," *Science Education*, XXIV (April, 1940), pp. 1-6.

⁸ J. Robert Miles, *Auditory Aids and the Teaching of Science*, Bulletin 57, *Evaluation of School Broadcasts* (Ohio State University, 1942), p. 18.

⁹ Ruth W. Mitchell, "Science on the Air," *Film and Radio Guide*, XII (February, 1946), p. 7. We may note that Philadelphia also presents the broadcasts, "Great Moments in Science" for older pupils, and a natural science program for young listeners, "A Trip to the Zoo."

pation in science activities by suggesting subjects for experiment and observation. Radio is, then, an ideal medium for introducing contemporary scientists speaking on scientific questions of general scope and interest, for presenting in dramatic form the lives and works of famous scientists, or for providing word-journeys to significant museums and other places of scientific interest. Radio offers children aural participation with scientific experimentation and opportunity for verification of facts. The radio broadcast may show the child how to conduct his own future excursions into science.

Section II. TEACHING ARITHMETIC

Radio an Avenue for Numerical Experience. The child builds a meaningful number system in terms of experiences at home, in his neighborhood, and at school. His school experiences are largely a result of the planning of his teacher. His teacher has an important responsibility in selecting those classroom activities which will demonstrate arithmetical problems that the child will want to solve. Radio can often be used to furnish the necessary practical foundation upon which such projects can be based.

Radio will probably make its greatest contribution to the teaching of arithmetic by enhancing the social value of the subject. It can help to provide a requisite social setting. Often the child finds incentive for counting, addition, subtraction, multiplication, or division in a social act. To be more specific, we may say that it is a social experience to buy a dozen eggs at the store, to save money to buy a bicycle, or to find how many oranges a week one must buy for a real family of six which consumes six oranges a day. A musical note which requires four counts, or a measure of music which requires a total of three counts although there are five notes within it, also requires arithmetical thinking. Radio should enable the child to understand the common social and economic life problems dealing with mathematics, such as time, banking, taxes, installment buying, and marketing for daily household needs. Radio helps to bring actual life experiences into the classroom. Radio advertising introduces many occasions for lessons in arithmetic. It may cite numbers, prices, and

weights; thus listeners may have occasion to solve problems of immediate interest. Similar experiences may be derived from listening to market reports and, in a simpler way, from figuring ingredients and their proper proportions on a program of recipes. Scores of football or basketball games broadcast over the radio may be kept as the basis for practice with numbers and arithmetic.

The real foundation of arithmetic lies within the home, school, and community. Numbers should also be viewed from an esthetic as well as a utilitarian standpoint. One should find vitality in form and symmetry in architecture and learn to observe that nature is reflected in curves, spirals, columns, and arches. One should be conscious of form in leaf veins, spider webs, frost crystals. Arithmetical concepts may be approached through a consideration of such objects, and practice with figures relating to money or historical dates, number of voters, or concepts of time and weight will afford the individual a better appreciation of the social and economic problems confronting our contemporary patterns of living. The use of radio may help to provide further information and understanding along these lines.

Radio Programs Require Pupil Participation. Pupil participation as a principle of learning is a vitally important adjunct to the teaching of arithmetic. This participation cannot be confined to passive listening. The writers doubt that arithmetical skill can be acquired solely by listening to a radio teacher or to a radio broadcast. Pupil participation in practice, review, repetition, and drill is necessary to establish correct arithmetical techniques. As a result, most radio programs broadcast to teach arithmetic emphasize the necessity of distributing printed lesson sheets to the pupils for use while the program is in progress. These lesson sheets contain arithmetical combinations to be studied, problems to be solved, and suggestions for activities during or after the broadcast. Often spaces for writing dictated exercises are arranged on additional lesson sheets. The broadcaster gives directions for studying number facts and for solving problems. The pupil can correct his own paper as the answers are called out. In other words, pupil participation is emphasized throughout.

A second important principle of teaching arithmetic is the provision for individual differences. For difficult processes the teacher must provide special drill and repetition for some, which would require too much time if given by radio. Ideally, perhaps, supplemen-

tary information and instruction might be introduced by a radio teacher. The classroom teacher can then score individual understanding of the concepts and their applications. Later, special attention can be given to the difficulties.

A phase of arithmetic much neglected by teachers is the arithmetical vocabulary. The vocabulary of arithmetic is as important as the skillful manipulation of its processes. The phrase "total amount," for instance, can be developed with addition, "net profit" with subtraction. An arithmetical vocabulary can be developed in connection with many class activities, with arithmetic problems, with directions, and with many basic processes. It is important for the teacher to keep a check on the number of times that special arithmetical expressions are used in connection with arithmetic teaching. When arithmetical words are used in radio broadcasts the teacher should call the pupil's attention to them. Perhaps the words can be placed on the blackboard before the broadcast, or they may be included in a word study list afterwards. The children may be asked to listen attentively to programs in order to compile their own vocabulary tests.

Time, interest, profit, cost, economical, thrift, investment, depreciation, inflation, margin of safety, risk, century, unit — these are typical words often used in radio programs and radio advertising. A resourceful teacher will direct attention to them and use them to increase arithmetical information.

Current Use of Radio in Teaching Arithmetic. According to a national survey by the committee of the National Council of Teachers of Mathematics in 1942,¹⁰ little use was being made of radio in the teaching of arithmetic. Commendable work has been done in Cleveland, Ohio, however, in which the lessons provide valuable experiences by means of participation in games and other activities. WBOE (Cleveland) has used script, recordings, and the public address system as well as direct broadcasts over the radio. Among the other cities in which arithmetic has received some consideration by radio are Baltimore, Brooklyn, Cincinnati, Cleveland, Detroit, Fort Worth, Portland, Oregon, and Spokane.

As to the effectiveness of radio mathematics teaching, we have very

¹⁰ A. Brown Miller, "A Report of the Radio Committee of the National Council of Teachers of Mathematics," *The Mathematics Teacher*, XXXVII (March, 1944), pp. 106-09.

little recent authentic evidence. A report of a comparison of radio with nonradio teaching, however, was made in 1933.¹¹ In grades 2-A and 2-B the radio children did no better than the control group; however, in the upper third and fourth grades, children who had been instructed by the radio surpassed the pupils in the control classes. The radio class was especially efficient in problem solving. Although it may take a term or two of experience for children to adapt themselves to radio lessons, it was found in this experiment that at the end of grade 4-B the median averages of the children hearing radio were about six weeks in advance of those pupils who had no radio teaching.

Problems of Radio Arithmetic Teaching. Arithmetic is essentially a skill subject, although it has its informational and sociological significance. As a skill subject it must necessarily be a drill subject. Drill requires frequent review, constant repetition in different sociological settings, and much diagnostic and remedial teaching. The time required for such techniques is prohibitive as far as radio is concerned. Then, too, diagnosis and remedial instruction is a direct classroom teacher-pupil relationship which cannot be assumed by radio. To insure the most successful results, arithmetic teaching by radio must limit itself to informational and sociological aspects of the subject. Even with attention to these aspects, the greatest appeal of such a radio program will be to the average child rather than to the exceptional child. The exceptional child, whether retarded or advanced, must continue to receive special drill and adjustment from the classroom teacher. The radio programs may help to create desire to learn arithmetic thoroughly and provide valuable supplementary information in an effective manner.

There are opposing views in regard to arithmetic teaching by radio. One group of educators believes that radio should merely supplement classroom work, thereby vitalizing and enriching curriculum content. Another group believes that such teaching should be an integral part of classroom instruction, carefully planned to provide the curriculum for a given grade.

The integrative and supplementary type of program is illustrated by the following script written by Eleanora Bowling Kane and presented by the Board of Education of Baltimore over WFBR.

¹¹ *Education on the Air*, 1938, p. 35.



Standard Oil Company of California

Radio Can Aid the Teacher of Arithmetic by Dramatizing Certain Phases of the Instruction.

IMPORTANCE OF ZERO ¹²

TOPIC: "I Want to Know"

Date.....

Guest Announcer: Bill and Mary Ann are back again, with some more questions for the Old Professor. Let's see what they want to know this time. Listen!

BILL: Well, Professor, we're going to be easy on you tonight. We came to ask you about *nothing*.

PROFESSOR: You came to ask me about *nothing*? Well, that *is* a little unusual.

MARY ANN: And we want to know *plenty* about *nothing*, too.

PROFESSOR: Well, there's *plenty* I know *nothing* about. Will that be just as good as knowing *plenty* about *nothing*?

BILL (laughing): You win, Professor... We'll tell you what we want to know.

MARY ANN: Our math class is interested in the humble zero. And we want *you* to tell us all about it.

BILL: That's right. We want to know when zero came into the number system, who invented it, what people did before they had a zero, what it's good for, why —

PROFESSOR: Hold on! That doesn't sound like *nothing* to me.

BILL: But it's a lot about *naught*.

PROFESSOR: It certainly is. Why are you two so interested in the history of zero? I thought zero was something school children didn't like to see, especially on test papers.

MARY ANN (playfully rebuking him): Why, Professor — you don't think that either Bill or I would ever get such a mark!

BILL: Speak for yourself, Mary Ann. Well, anyway, Professor, here's the way it is. Our Math Club is interested in the zero. It really is sort of wonderful — the changes a zero can make in a number. You just put a little old zero to the right of a *two* — and presto — you have twenty! And you put *two* zeros and you have two hundred, and you put three and you have two thousand.

PROFESSOR: Yes, the zero is the reason why the Hindu-Arabic numbers finally won out over other systems.

MARY ANN: Didn't the other systems have any zero?

PROFESSOR: Very few of them. The Babylonians had a symbol which meant *none*. They used it to indicate the absence of a figure, but they

¹² Presented over WFBR, Baltimore, Maryland, by the Department of Education, Baltimore, Maryland, on a program for children entitled "The Students' Program."

didn't use it in computation. The ancient Maya of Central America and Southern Mexico had a symbol for zero.

MARY ANN: Did it look like ours?

PROFESSOR: No, it resembled — well — roughly speaking, I'd say it looked like a half-closed eye.

BILL: You say few of the ancient number systems had a zero. Well, who invented the zero, Professor?

PROFESSOR: We don't know, Billy. The zero is one of the greatest benefits to mankind, and yet we don't know who first started to use it. It probably came into use so gradually that maybe we can't even say it had an inventor.

MARY ANN: The Hindus used it, didn't they?

PROFESSOR: Yes. Scholars have found an inscription in India, using the zero, from as far back as the ninth century. And yet, later investigation leads us to believe that the Hindus were using the zero in the second century before Christ. The Arabs began to use the zero in the ninth century A.D. It took them some time to realize how valuable the zero was to the number system.

MARY ANN: What did the zero look like in those days, Professor? Was it in the shape of an *O* like ours?

PROFESSOR: Well, we aren't sure of that either. We think that it came from the symbol they used for *ten*. The Hindus called it the "void" or "heaven space." The Arabs did not adopt the circle for zero. They continued to follow the early Hindu custom of using the dot. Even today an Arab does not use the circle for zero unless he is influenced strongly by the European system.

MARY ANN: Did any other ancient peoples use the circle to represent zero?

PROFESSOR: Yes, but I'll bet you can't guess which country used it.

BILL: Which one, Professor?

PROFESSOR: China. We find the Chinese using the circular zero in the thirteenth century.

MARY ANN: I guess some Hindu trader carried it there.

BILL: Professor, why do we call it zero? You said the Hindus called the symbol "the void" or "heaven space."

PROFESSOR: That's a good question, Bill. I think we ought to give some attention to the name for this symbol. Today we often speak of it as zero, or naught. The telephone operator usually calls it *O*, and some people incorrectly say *ought*. The name zero came from a great Italian mathematician. He called the symbol "zephirum." Other writers used different names, but the term zero seems to have remained.

MARY ANN: Zero surely does make calculating easy for us. Just think. All we need are nine numbers. We can express any number we want and still use only nine symbols and zero.

BILL: Those old-time people must have had a hard time writing numbers.

PROFESSOR: Just think, Bill. They had to have a separate symbol for every single number. Because the Greeks didn't have a zero, they had to have twenty-seven different characters to write their numbers.

BILL: Well, I'm plenty glad those Hindu-Arabic numbers with their zero went to Europe, or I guess I'd still be learning to count!

ARITHMETIC PROBLEMS — OLD AND NEW ¹³

Music — up and out

MOTHER: Have you finished your arithmetic homework, Jimmy?

JIMMY: Yes'm, I finished it — and boy, oh boy, was it hard! Gee, I really had to work tonight. But I finished all the problems.

MOTHER: Good! Now, what about your history? Didn't you have something to look up about Egypt?

JIMMY: Yes'm, I did that too — and I'm all ready for you to tell me a story — Let's sit down here by the fire.

MOTHER: All right, Jimmy.

JIMMY: I found some swell information on Egypt. Gee, Mom, I wish I had been a little boy way back in Egypt. Then I wouldn't have had any old arithmetic to study.

MOTHER (laughing): I wouldn't be too sure of that, Jimmy. Why, the Egyptians were the people who built the Pyramids! It took a knowledge of mathematics to do that.

JIMMY (persisting): I know, but I bet the little Egyptian *boys* didn't have to do *arithmetic* problems like ours.

MOTHER: Well, maybe not exactly like yours — and I'm sure *all* Egyptian children didn't study arithmetic, because learning was the privilege of the upper classes only. (Fading) But let's think about an Egyptian boy of an ancient noble family.

Music — steal in softly as B.G. — Egyptian music

His name is Ahmes, and he's studying his lessons with a priest of the Egyptian god, Osiris.

.....

¹³ Presented over WFBR, Baltimore, Maryland, by the Department of Education of Baltimore. It was one of the broadcasts of a series entitled "Your Baltimore Schools." We are reprinting but part of the program; our deletions are indicated by a series of dots. We have retained the major portion of the script.

AHMES (slowly): "Seven persons have seven cats. Each cat catches seven mice. Each mouse eats seven stalks of barley. Each stalk can give seven measures of grain. (Fading) What is the total of these?"

Egyptian music — up and out

JIMMY: That was a silly problem for a boy to have to do. It didn't make sense. Ours at least sound like *real* problems.

MOTHER: That *Egyptian* arithmetic problem doesn't sound nearly so strange to us, as some from the *Hindus*. The *Hindus* were brilliant in mathematics and probably gave us our numbers which we call Arabic. But their arithmetic problems were fanciful and certainly impractical. Why, goodness, Jimmy — some of them sound like fairy tales. For instance, a Hindu child would have had a program like this for arithmetic.

VOICE (sonorous intoning): "Of a collection of mango fruits, the king took $\frac{1}{2}$, the queen took $\frac{1}{3}$ of the remainder, and the three chief princes took $\frac{1}{4}$, $\frac{1}{5}$, and $\frac{1}{6}$ of that same remainder, and the youngest child took the remaining three mangoes. O, you who are clever in miscellaneous problems on fractions, give out the measure of that collection of mangoes."

Music — up and out

JIMMY (mimicking): O, you who are clever in miscellaneous problems on fractions — Gee whiz, Mom, what a problem! And after the Hindu kids had worked it, where did it get them?

MOTHER (laughing): Not very far, I guess, Jimmy. But if you think that problem's worded in a peculiar way, just listen to this arithmetic problem from the Greeks —

VOICE: "Diodorus, the great glory of dial makers, tell me the hour since the golden wheel of the sun leapt up from the east to the pole. Four times three-fifths of the distance he has traversed remain where he sinks into the western sea."

JIMMY: Gee! Do you mean some poor kid had to figure out how far the sun traveled? (mutter) Four times three-fifths of the distance, traversed — Boy, what a problem!

MOTHER: That's right, Jimmy. And, as you said about the Hindu problem — After a child solved it what did it matter? The problem certainly had nothing to do with the situations he would meet in real life.

.....

JIMMY: Our problems at least sound real!

MOTHER: Tell me about some of them, Jimmy.

JIMMY: Well, for instance, our class is going all out for volleyball, and

we asked the principal to reserve us court space on the playground. She said she would if we'd figure out just how much we needed and how much space would be left over. So we did our figuring tonight for arithmetic.

MOTHER: Then you really made up your own problem?

JIMMY: Yes'm. We measured the yard and found there were 2000 square yards in the playground. We need a space 20 feet wide and 45 feet long. We have to tell the principal how much space would be left for the other kids to play in, and that's part of our arithmetic homework for tonight.

MOTHER: Well, Jimmy, your arithmetic may, as you say, be difficult for you, but it *is* practical.

JIMMY: Yes'm, I guess it is — At least it means more to me than those mangoes, and sundials, and wherries must have meant to the poor kids of olden times.

Theme — up and out

STUDENT ANNOUNCER: Jimmy is right. Present-day arithmetic problems should meet a real need in the life of the child. Let's take a few minutes to talk about these arithmetic problems that our children solve today. We're going to ask some questions of Miss Audrey Deppenbrock, a supervisor of intermediate grades. Miss Deppenbrock, we've observed from the first part of tonight's program, that arithmetic problems used to be meaningless to children. They apparently had no connection at all with real life situations. That was the case, wasn't it?

MISS DEPPENBROCK: Yes, it was. Arithmetic used to be treated as a subject almost completely isolated from life and its needs. Pupils used to work problems without seeing any application to everyday life.

[A discussion continues between the students and teacher, and several problems and examples were presented.]

ANNOUNCER: The little boy in tonight's sketch had a very practical problem to solve. Is that the kind of problem teachers try to give these days?

MISS DEPPENBROCK: Arithmetic problems based on topics like these are fundamentally useful from the standpoint of the needs of society. The child working these problems can understand the usefulness of what he is learning.

ANNOUNCER: Thank you very much, Miss Deppenbrock, for answering our questions about the teaching of arithmetic.

Theme — up and out

A program giving direct instruction in arithmetic is offered below. The necessary cooperation of the classroom teacher is not only

directly recognized but the program is purposely designed to require this cooperation. Such a program is illustrated by an arithmetic lesson guide of Station WBOE (Cleveland):

ARITHMETIC RADIO LESSON ¹⁴

Monday, February 27. 10:15-10:30 A.M.

Radio Teacher, Marcella McNerney.

Level V

No. 1

Direction to the Teacher:

Have a clockface with movable hands fastened firmly to an easel or bulletin board. On the left side print "to," on the right print "after."

Have on the blackboard a circle about the size of a clockface.

During Broadcast:

1. Teacher will be asked to show different times on clockface.
2. Children will be asked to show different times on clockface. The teacher will have to assist with hour hand when the child is asked to show "a quarter to," "a quarter after," etc.
3. The teacher will be asked to print "to" and "after" by the circle on the blackboard.

Follow-up Work:

During the week give the children opportunities to tell the time. Have the children fill in missing numbers on child's daily schedule. Results of this test will help teacher in determining which children need further study on telling time to the quarter hour. Samples of other checks on telling time are attached to the guide sheet.

Objectives:

1. To tell time on the clock to the quarter hour.
2. To understand and use one half and one quarter when applied to an object (the circle).

Vocabulary:

Quarter hour, circle, top, bottom, after, to, opposite.

Conclusions. Radio programs designed to teach arithmetic are seldom heard as educational broadcasting. The teacher will have to use great ingenuity in selecting from available programs those elements which may furnish background for arithmetical situations. As a matter of fact, it is in the opportunity afforded for supplying back-

¹⁴ *Report of Radio Activities*, Station WBOE, 1938-39.

ground that radio offers its best possibilities. Often the teacher does not have at his command either the wealth of information on radio programs that can be made available to children or the facilities for presenting it effectively. The exact study of the processes of solving problems, and the necessary drill for maintenance of these processes, can probably best be achieved by direct classroom instruction.

It should be remembered, however, that the functional setting is not sufficient in itself. Neither is the study of processes involved sufficient. Few children will acquire arithmetical skill through radio alone. Even should they learn a new process, they are not likely to give themselves sufficient practice to establish it for use in a life situation. Instruction in arithmetic by radio must be followed by additional instruction by the classroom teacher. While most of it will consist of further study in the meaning and function of arithmetic in life, much of this instruction will include teacher-given maintenance drills.

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Arithmetic

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Natural Science

Section I. NATURE STUDY

The lower elementary grades have traditionally confined science studies to animal and plant life, but this does not establish a necessary procedure. Pupils of these grades also have a vital interest in trains, automobiles, airplanes, machinery, heat and cold, snow, rain, and other phenomena of physical science. Teachers have only to follow the spontaneous questions of children to discover their interests in other natural and physical sciences.

On the primary level especially, the child will most readily become interested in the wonders of nature around him. By the time the child comes to school he has developed a lively curiosity about the plants, birds, and animals he has seen. He wonders about thunder, about seasons, and about rain and snow. It should be a principal objective of the teacher to make the pupil understand that there is an important relationship between man and these natural phenomena. This understanding is developed by skillful questioning designed to direct interest and observation. Questions such as these may be helpful:

1. Why do birds come in the spring and leave in the autumn?
2. How can man control the enemies of the bird?
3. How has man made use of the horse?
4. How does water change to ice?
5. Of what value to man are the dog and cat?
6. How do ladybugs, crickets, ants, spiders, or grasshoppers help or hinder man?
7. What is the life cycle of the housefly?

It is not difficult to find educational radio programs which attempt to teach nature study from the functional point of view indicated in these questions. Despite the fact that the study of natural science requires visual response, radio broadcasts can be of genuine value to the teacher. The possibilities for the subject matter of nature study lessons are sufficiently extensive to allow for refreshing variety. Almost all schools of the air include nature lessons in their curriculum,

either in a series or as part of "general science" broadcasts. Most stations devoting time to planned lesson series for educational broadcasts offer some programs on natural science. Radio, however, cannot adjust its programs to the environment of every school. Each school will have its own schoolyard, its own community, and its own natural laboratory. The teacher must adapt the broadcasts to the school's immediate environment. It is when the teacher does not have such special subject broadcasts at his disposal that he must be resourceful in drawing inspiration from other broadcasts. A radio broadcast about gardening, for instance, can readily be utilized in directing interest to the trees of the schoolyard, the home yard, or the city park. It may thus lead to discussion on botany, conservation, landscape planning and civic beautification.

A radio broadcast can launch a unit of work for the imaginative teacher who can select and use pertinent and appropriate programs. A program on trees, for example, can well lead to the study of the lumber industry. The study of tree varieties, commercial uses of wood, or the effect of machines on the lumber industry may be developed from a radio broadcast. Some series, "American School of the Air," "The Baxters," or "Home Is What You Make It," for example, may include one or two broadcasts which may help the teacher to foster nature study. Another source not to be disregarded is recorded material. While the preponderance of recordings has been in language arts and music, there should be an increasing amount of material recorded which can help to enrich schoolwork.

A radio broadcast on nature study can often be used to initiate a class project or unit of work. A broadcast on the milkweed, for example, may well precede an excursion to the schoolyard. Radio-inspired excursions need not be elaborately planned, need not go far afield, and need not be frequently engaged in. The schoolyard, or even the home or neighborhood yard, can supply sufficient nature study material to last for many weeks.

Besides serving to direct attention to nature in its many aspects, radio broadcasts may translate description into experience. Instead of merely reading about places and phenomena, the child can take imaginary journeys to zoos, to forests, to parks, to swamps, to the Grand Canyon, the Great Lakes, or the Mississippi, by means of documentary radio programs or by way of dramatized, fictional

visits. Radio helps to acquaint us with the world beyond our community. By not limiting himself to local conditions, the broadcaster can present information about experiences with nature which are common to life everywhere; he has an opportunity to draw attention to the broader aspects of nature study and the interrelations of man and nature. Actually, this area has been somewhat neglected. Certainly it deserves consideration, for it is important that the child see beyond his casual interest in flowers, frogs, sunsets, and rainstorms and see their relationships to nature study in general.

Radio nature study broadcasts have achieved their purpose if they have made children responsive to nature, alert to observe, and eager to assume their responsibilities in conserving our natural resources. By re-creating noteworthy experiences, by conducting descriptive journeys on nature's trails, by presenting simple experiments and explanations, the nature expert on the radio can arrest the attention of children and arouse their interest in the world about them. Enjoyment of nature is of cardinal importance, and radio lessons may help the pupil to find new sources for this appreciation and pleasure. The radio teacher is also able to bring a variety of material and information to his listeners which the classroom teacher is frequently unable to provide.¹ This in turn enhances the experience of the child with nature study.

The Objectives of Teaching Nature Study by Radio. The objectives listed by the various radio nature study programs can be organized under four general classifications:

1. To stimulate a desirable attitude toward preservation of natural resources. This includes stimulating a desire to restore natural resources that are socially worth while.
2. To develop an alert sense of esthetic appreciation of nature. This includes the development of a real interest in nature and of better habits of observation.
3. To aid pupils to understand and to use scientific methods in making decisions. This includes the ability to gather, organize, and interpret data.

¹ Ninety-eight per cent of the teachers in Wisconsin who responded to a questionnaire regarding a specific series of nature study broadcasts indicated that there were twenty-seven different kinds of material brought to the pupils by radio which would not otherwise have been available. *Radio in the Classroom*, p. 65.

4. To increase knowledge of how nature has governed the activities of man. This includes a study of man's control of nature and of the social complexities which have resulted because of man's neglect to keep pace with scientific developments.

Illustrative Nature Education Broadcasts. Although radio programs designed for nature study instruction are not numerous, there are a sufficient number to enliven and vitalize the textbook or the oral instruction of the teacher. These programs are usually adaptable to all the elementary grades, for it is possible and practicable to broadcast nature study programs to even the youngest of pupils.

Station KALE, Portland, Oregon, broadcast a weekly series entitled "Who's Who at the Zoo" for the kindergarten and grades one, two, and three. The program usually consisted of a dramatization of an animal fable, followed by a short chat between the radio storyteller and the zoo director.² These series of broadcasts met the standard required for the lower grades in that the language was simple and dramatic with the element of repetition prominent.

A similar series has been sponsored by the Radio Council of the Chicago Public Schools³ entitled "A Trip to the Zoo." This is a series of broadcasts on which elephants, lions, squirrels, and many other animals come to the microphone. The pupils meet all kinds of animals and hear some of them speak. The pupils study the animals' habits, their native haunts, and the ways they have affected the progress of man. Broadcasts originated from Lincoln Park Zoo, the Chicago Natural History Museum, the Brookfield Zoo, and the Trailside Museum. The school children of Philadelphia have also profited by "A Trip to the Zoo" series presented with the aid of the public schools system. "Land Alive," a nature study series of high merit, was heard in the vicinity of Minneapolis. Each program usually dramatized the adventures of some youngsters on a nature trip of some kind and was complete; that is, it did not depend on other programs in a series. Designed to supplement and enrich rather than to serve as the core of a unit in nature study, the program was broadcast during school time and then rebroadcast from another station at a later hour when it could be heard by pupils at home.

An excellent series entitled "This Week in Nature" is described by

² *Journal of the Association for Education by Radio*, II (February, 1943), p. 4.

³ *Station WBEZ Program Schedule, 1944-45*, Radio Council, Chicago Public Schools.

E. Lawrence Palmer, who conducted the programs.⁴ Occasionally Mr. Palmer invited various pupils to participate in his broadcasts about nature, and the children brought different objects of interest in relation to nature study. Mr. Lawrence could not anticipate what specimens the children selected, but during the program he had them empty their pockets or boxes before the microphone, and he selected various objects as points of departure for conversation about nature. He made every effort to keep the overzealous child from monopolizing the program time, and encouraged all pupils who visited the studio to participate. To add a note of variety and to help meet the specific needs of the pupils in his area (New York State), Mr. Palmer presented one program a month built around questions and suggestions made by pupils in the various schools which listened to the series.

Once a month he discussed the measurement of something, such as speed, light, or heat, thereby assisting the children in their comprehension of natural phenomena. He also devoted programs to observations regarding seasonal changes, so that his listeners might become more alert to the world about them. The remaining lessons were designed to augment the standard work in science offered in the schools.

A successful and much publicized radio series in nature study broadcast by the Wisconsin School of the Air is entitled "Afield with Ranger Mac."⁵ Prepared specifically for classroom use, these broadcasts are to be preceded by a brief period of preparation and followed by ample time to allow for discussion and related activities. The teacher's manual to be used with this series is especially noteworthy in its explicit statement of objectives, suggestions for use, and its list of discussion questions and bibliography. A sample page from this manual follows:⁶

⁴ E. Lawrence Palmer, "Teaching Nature by Radio," *Nature Magazine*, XXXVII (May, 1944), pp. 272-73.

⁵ Wakelin McNeel, *Afield with Ranger Mac, Manual for Teachers, 1944-45*. Wisconsin School of the Air.

⁶ *Ibid.*, p. 11.

WOODS, WATER, AND WILDLIFE

(Essential Principles of Conservation)

Program 8

November 13, 1944

It is well for all of us to remember that man, with all his chemical and scientific ability, has not been able to create living and growing things. For this, we must depend on Nature, whose growing, living things are the raw materials that supply the immediate and future needs of our people, in war or in peace. It was the abundance of these raw materials that brought mankind to America. They made our nation possible. Now we have used some of these resources almost to the point of exhaustion. Our future depends on how well we safeguard and develop what we have left.

WE MAKE READY (Before the broadcast)

1. Make a list of ten animals, then try to determine the part each plays in the scheme of nature. Examples: the beaver, a conserver of water; the hawk, a check on rodents.
2. What is meant by "the balance of life"? In what ways has man destroyed the balance of life in nature? What has been the result?
3. What is a habitat? Where is the habitat of the marten, mink, beaver, chipmunk, kingfisher, eagle, groundhog, ruffed grouse?
4. How have we destroyed the habitat of trout in many of our streams?
5. Do you think it would be better for us to spend more time improving habitats than raising fish and game artificially?

WE'RE UP AND AWAY! Listen for these ideas:

1. Listen to Ranger Mac's story of the original tree and wildlife resources of our country. Note how the heavy heel of civilization has destroyed many of these trails in plant and animal life.
2. How do forests keep up the balance of water? How does water help to keep up the balance of wildlife?
3. How do birds help to keep the balance in insect life?
4. Do hawks and owls help to maintain a balance in any way?
5. Does the story about "The Spring that Came Back" give you any idea of what might be done on every farm?

WE WANT TO LEARN MORE (After the broadcast)

1. For your next language composition, write on the subject, "What I Can Do in Conservation."
2. An authority recently stated that the southern tier of Wisconsin counties will be as barren as Canaan in a few centuries if present practices are followed. What did he mean?

3. Read more about conservation and the balance of nature in these books:

Working with Nature, King and Pessels

Our American Forests, Glover

Tales and Travel (Conserving Our Natural Wealth), Hahn

Balance in Nature, Parker and Gregg (6-10)

The Earth Then and Now, Craig (230-46)

Richer Ways of Living, Wilson ("Waste not, want not" and "Conservation")

Insect Friends and Enemies, Parker and Gregg (6-10)

How and Why Discoveries, Frasier (233-41)

Discovering Our World, Book II ("How Do Living Things Help and Harm Each Other"); Book III, (428-35), Beauchamp

Teaching Conservation of Wildlife through 4-H Clubs (pamphlet)

The broadcasts furnish a lively experience for the listeners. Even the talks stir up curiosity and interest. Among the titles for the year 1944-45 were: "A Glorified Weed" (milkweed), "Bringing the Outdoors Indoors" (school museum), "The Private Life of Johnny Musquash" (muskrat), "A Kak of Inde" (wild turkey), "An Animated Pincushion" (porcupine), "Old Slowpoke" (opposum), "The Friendly Dragon" (dragonfly).

This nature study series has been used to supplement the teacher's work in agriculture, general science, nature study, or in a combination of these subjects. In some schools it has served as a foundation for classwork in nature study or as a basis for further study.

Another excellent series was "Science Time over WHAM," a presentation of the Rochester School of the Air. For the series on animals, the broadcast titles were "Garden Saboteurs," "Six-Legged Friends," "Animals around the World," "Animal Ways," "Some Winter Residents" (birds and animals). The programs on conservation were entitled "A Furry Engineer" (beaver), "Pageant in the Sky" (birds), "Wings over the Americas" (bird migration). The series on the plant world were entitled "Our Food Factories" (green plants), "Dependent Plants" (nongreen), "Pirates in the Plant World" (plant enemies).⁷

The following criteria indicate the basis of planning for this series:⁸

⁷ "Science Time over WHAM," the Rochester School of the Air, Rochester, New York. (Fifth grade science series for 1944 and 1945.)

⁸ *Ibid.*

1. Content of broadcast is to be timely, but held to age standards of comprehension and interest.
2. The program material is intended to supplement classroom references.
3. The broadcasts are aimed at stimulating constructive thinking and greater use of the scientific method in solving problems.
4. The suggested activities listed are intended to help develop an understanding of scientific laws and principles which can later be applied to everyday living. More activities are suggested than can be used, but it is done to help individuals and special needs.
5. Audio-visual aids and references are mentioned with the thought that this service may assist you to plan your science work with a minimum of time and effort.

It is vital that the teacher devote his attention to the implications as well as the facts of natural science. If the radio narrator presents the information about nature in a refreshing manner and offers a wealth of material not otherwise available, the teacher can devote his time to citing examples and pointing out their significance. If the teacher does not help the pupils to appreciate the interrelationships of man and nature, he will have neglected an important and desirable educational objective. Radio can be valuable to aid in meeting this responsibility.

Section II. CONSERVATION OF HUMAN RESOURCES

The Importance of Health in Broadcasts. Radio has its negative as well as its positive side in regard to health education. Many of the negative effects have been eliminated, but due to the tremendous power of finance, we still find convincing advertisements of the soothing properties of cigarettes and the attractiveness of liquor. Quack medicines are still being vigorously advertised.

The programs promoting the sale of vitamins are many, and while the information given may not be incorrect, the emphases and the claimed values of such products may be misleading. In one way or another radio is devoting a great deal of attention to health. This "attention" occurs frequently and at all hours, so that there is a potential effect upon youthful listeners as well as upon adults. The

psychological effect is hard to determine. Does the apparent solicitude for health attract or repel the young listener? How does it bias his attitudes about medicines and health? How does it affect his behavior?

Another psychological effect which is hard to determine is the impact of the dramatic and emotional elements of the serial stories, both those designed for children and those directed to their mothers. Not only are these programs building certain emotional patterns which are significant to educators, but they are also affecting attitudes toward health. Considerable information about health may be incorporated in the scripts of these shows. Physicians and nurses are prominent among the personnel of radio serials; accidents, mental disease, childbirth, and death are frequent occurrences in serial programs. These broadcasts cannot be ignored, for they are important in fostering beliefs with which educators must work. If the teacher is wise, he will plan a course of instruction with these influences in mind. The effect of the impressions gathered by listening to radio may be either negative or positive, depending on the kind of experiences and explanations the pupils receive at home and at school.

The Objectives of Health Education by Radio. Aside from the subtle effects of radio advertising and program content on the attitudes of listeners, radio may make other definite contributions to health education. Diagnosis of disease and suggestions for the curing of illness have no place on a radio program. There are occasions, of course, when it is advisable to present information to the public; most of this information should be by way of suggesting preventive measures, precaution against spread of disease, and instructions for general emergencies. Special bulletins and instructions at times of epidemics and serious danger to individual and public welfare are in order. Moreover, the attention of the public should be directed to medical discoveries, new treatments, and any information which may help them to understand the role of science and medicine in the maintenance of good health. The responsibility of those sponsoring health education programs is to foster receptive attitudes and constructive habits for a healthy individual and a healthy nation. Attention should be directed to community, state, and national work for the improved techniques of public health.

Correct health attitudes are more important than the most meticu-

lous adherence to medical instruction when the doctor's advice is followed blindly. Pupils can be taught that it is possible to be healthy without excessive concern about health. They can also be taught that medical theories and practices depend on present developments of science and that further discoveries may change many theories and concepts. Pupils must also develop critical thinking in regard to health; they should be taught to check on health data, to make careful interpretations of what they read or hear, and to recognize qualified health authority. It is important that pupils learn to be skeptical of fabulous claims for medicines, for treatments, for diets, or for doctors; to be wary of generalizations; and to exercise discrimination in both attitude and behavior.

Contributions of Radio Programs to Health Education. In turning our attention to the specific services radio renders to health instruction, we may cite first the value of bringing the advice of experts to listeners. In no area of human experience, perhaps, is trained professional opinion more important than in matters of health. The doctor, the scientist, the nutritionist, and the physical-education authority are the ones who should instruct us in our habits and our beliefs about hygiene. Children need early training so that they may be wise in sensible living and suspicious of fraudulent or extravagant claims and appeals. Misinformation is rampant. Rumor, quackery, and superstition are the pitfalls we must avoid.

As a rule, addresses and discussions by scientists are directed to the adult level of understanding. Excellent series released nationally which may be of some interest to the upper elementary school pupils are "The Doctors Talk It Over" and "Doctors at Home." Special forums and talks featuring physicians and other health experts are presented from time to time on the networks, and many regional stations conduct both series and individual broadcasts on questions of health.

Probably the American Medical Association has been the most active agency in educating for health by means of radio. The increase in the number of broadcasts by this association is typical of the increased interest in radio health programs in general. Broadcasting was begun by the American Medical Association for radio education in 1923 and has been continuous since that time. Until 1935 most of these programs were in the form of talks, but beginning in 1935 the

programs began employing dramatization. For example, dangerous situations which may cause burns, fractures, unconsciousness, shock, and individual and epidemic disease, etc., were all dramatized. "Your Health" (NBC), a typical American Medical Association series, was organized around special health topics and provided a comprehensive review of the major health and hygiene topics of interest to school children. Briefs of the program contents and suggestions for collateral reading and possible projects were assembled and distributed to teachers before the broadcasts.⁹

Another series of historic importance in health education broadcasting is "Highways to Health" (CBS).¹⁰ This series introduced distinguished men of medicine to discuss the benefits of psychiatry for the person in normal mental health. Three phases of the role of psychiatry in contemporary society have been presented:

1. Its aid to the health of family relationships and the successful emotional training of children.
2. Its relationship with social agencies such as churches, schools, welfare organizations, and domestic relations courts.
3. Its aid in the army programs of selective service.

While the subject matter of this series would be too advanced to warrant attention by the elementary school child, such programs indirectly affect the lives and attitudes of these children, for the attitudes and conduct of the parents and teachers form the environment of beliefs in which the child matures. The child is quick to adopt the patterns of thought of his elders; therefore it is important that the adults be well informed.

As in the case of many of the specialized areas of education, the burden of health instruction for children is carried by the local stations. Among programs which are noteworthy are "Your Health and You" (KUOM, University of Minnesota), which features talks by Dr. William A. O'Brien for use in grades six to nine. WBOE, Cleveland, has presented a health series for in-school use, as has WLS, Chicago, and other stations. At one time a series on dental health care was supervised by the Akron Dental Society and was included

⁹ Selected scripts from the series have been published. W. W. Bauer and Leslie Edgley, *Your Health Dramatized* (E. P. Dutton and Company, 1939).

¹⁰ *Journal of the Association for Education by Radio*, II (November, 1942), p. 7.

in the curriculum of the Akron, Ohio, School of the Air.¹¹ Other programs are directed to children at out-of-school hours. An example is "Your Health and Safety," a program of the State Department of Health, the Red Cross, and the Roanoke, Virginia, County Health Association. The teacher may also be alert for programs on health in such series of broadcasts as "The American School of the Air," "Cavalcade of America," "The Baxters," and "Home Is What You Make It." Although the dramatization of the life of a scientist, as in the "Cavalcade of America" programs, may not teach the child specific principles of health, it may arouse his interest and direct his attention to health problems and their solution. Transcriptions, too, can serve the alert teacher. The United States Department of Health and the American Social Hygiene Association are among prominent organizations which present recordings on problems of health.

We must not neglect programs concerning diet and nutrition. These form a prominent part of the so-called women's shows, and while they are infrequently a part of classroom experience, they often form background for out-of-school listening. The teacher may mention these as a source of information about vitamins, minerals, proteins, and on how to prepare food properly.

Occasionally a series is specifically designed for use in schools. One which was sponsored by the Red Cross may be used for illustration.¹² Included in the production of one series was the plan that each of twelve elementary schools be assigned some subject such as breakfast, teeth, milk, sleep, and sunshine. The teacher, with the aid of a review outline, developed the lesson and each pupil wrote a story on it. The author of the best story was chosen to participate on a radio program. The United States Department of Agriculture series, the "Farm and Home Hour," is an excellent example of programs which present authentic information on nutrition. These programs include both the scientific and the romantic side of food. They are presented in an interesting form, as, for instance, in conversations between women concerning home problems of nutrition or budgeting. With nutrition programs especially, the teacher must take precautions against the commercial exploitation of his pupils. Most nutrition programs are

¹¹ *Journal of the Association for Education by Radio*, III (January, 1944), p. 2.

¹² Pearl Rorabough, "The Sixth-grade Nutrition Class Goes on the Air," *Journal of Home Economics*, XXV (1933), pp. 581-82.

designed to sell some special product, and every effort is made by sponsors to make the listeners believe that their product is the only worthwhile commodity for its specific purpose.

Making Radio Programs Effective. The radio can be valuable in supplementing the teacher's work in health education, particularly in providing current data and special interpretations and applications about which the teacher may not be advised. Many radio stations are eager to provide this service to the schools, and they are usually co-operative in making printed copies of speeches and other materials available so that the broadcasts will be more effective. Health experts are rarely experts in the art of teaching, and it remains the teacher's responsibility to make their meanings clear to the children who hear them.

Physicians, psychiatrists, and scientists do not pretend to be qualified teachers for elementary pupils. They are not acquainted with the vocabulary of the school child; they do not always select and explain their material in terms of youthful experience and understanding. Yet their spoken word, their appearances before a microphone, can have a stimulating effect upon the child if the teacher will provide definitions of words and other explanations and applications. With rapid developments in science and medicine, the scientific vocabulary is also growing. Not only are the words sometimes difficult to pronounce, but they are hard to understand. Of course, the expert addressing the radio audience should consider the limitations of his listeners, but if he does not, the teacher must help to create understanding.

An outline of the program should be sent to the teacher. Pupils can then be made familiar with the new vocabulary before the program comes over the air. Word lists are often sent to accompany the lesson outline. These words can be written on the blackboard and pronounced; the meaning can be carefully explained. It may be helpful for the pupils to keep a science word book to which they may refer for review.

Because of pupils' general unfamiliarity with scientific subject matter, the employment of visual aids can be especially useful. Diagrams, anatomical charts, graphs, slides, pictures, and movies can all be used to advantage. Lesson outlines or teachers' manuals sometimes include some of these along with suitable discussion questions.

The teacher must not overlook the significance of conducting simple experiments or demonstrations to supplement the radio program. Instructions for making apparatus for the experiments may be included in the manuals, or the teacher may discover ways of conducting the experiments alone.

Health education is a long and continuous process, for it depends on human relationships and climatic and economic conditions, and upon man's progress in finding new ways of prolonging life and making it more pleasant. Radio can serve as an agency for acquainting society with the developments and responsibility of new discoveries.

Radio and Training in Physical Education. Physical education is a part of health education in that it pertains to the care and development of the body, particularly through the systematic use of exercises. Physical education is not concerned merely with calisthenics and games; individual and group exercises are important only as they contribute to the well-being and enjoyment of the participants. The study of physical education allows for an understanding of bodily functions and an appreciation of the well-controlled and flexible human mechanism. An extension of this interest is found in the world of competitive sports, as one becomes either a participant or a spectator.

Radio programs sponsored by commercial or educational organizations which instruct the individual in methods of safely reducing bodily weight, in dancing the latest ballroom steps with grace and agility, or in attaining a skillful game of tennis can all be classed as physical education. Physical education may include calisthenic drills for school classes, or even the setting-up exercises sometimes heard during the early morning hours. Generally speaking, programs giving advice on diet or rest or on special kinds and types of physical exercise also contribute to physical education.

Some may even consider the exciting account of a sports reporter describing a football or basketball game or a boxing match as a contribution because it stimulates interest in sports. As a medium for bringing the thrills of competition in sports into the home and acquainting the listener with the events and personalities in the world of sports, radio certainly adds to the enjoyment of the public.

Radio as a Tool for the Objectives of Physical Education. The objectives of physical education may be conveniently classified as fol-

lows: developing skills in bodily action, contributing to good health, and promoting desirable social behavior. Radio cannot provide much assistance in the development of expert individual skill. Too much time, repetition, and direction are required for an expert dancer, football player, or bowler to be trained by means of radio lessons alone. After initial explanations are made, problems are individual, and the pupil needs help lest the wrong patterns of movement be established. All that a radio program can hope to do is to provide for the student the stimulus to learn. The broadcaster can set the stage, can offer preliminary explanations and examples, and perhaps direct an appeal to the child in arousing desire to learn. If radio helps to create an eagerness to learn about different types of physical activities, and to acquire dexterity in some of them, then it has done much to aid both teacher and parent.

Although pleasure should be derived from physical activity, children should understand that if they do exercises carefully and play games skillfully, benefits both in health and appearance may be expected. Their bodies will function more efficiently if muscles and limbs are given exercise. Very often children enjoy learning about new gymnastics and new games, but they dislike the practice required for good performance. Few health benefits result from occasional exercise. Radio can help to motivate an enduring interest in this health aspect of physical education and can help to teach the children the need for precise and continued practice for skill. The experts in the different fields of physical education can tell youthful listeners about their own experiences. Skits, forums, and talks may be given to promote understanding of the hygiene of physical education, the need for periods of rest and relaxation as well as for exercise, and proper training in sleeping and eating and moderate habits for superior performance. Very often the broadcaster can make these lessons more appealing than could the classroom teacher. Whenever the message of someone who has succeeded in the world of sport can be brought to the pupils, the radio may exert considerable influence on the children's interests.

A special value of engaging in physical education is the socializing experience it provides for children. Through mutual and competitive activity the pupils learn about human relationships, about sportsmanship, fairness, and cooperation. Perhaps too much stress is placed on

winning in our sports contests; more emphasis should be given to the values and pleasures of competition or cooperation in games and play, so that children will participate for the joy of engaging in activities with each other.

Children are avid sports fans. By listening to radio broadcasts they learn many of the details and the techniques of sports. Inasmuch as the sportscaster rarely mentions the possible social benefits from engaging in games or physical competition, it is the responsibility of the teacher to do so. Sportsmanship and physical superiority know no boundaries, and interest in games and physical endeavor is common to people of many nations. Competitions are often international in scope, and it is by means of radio that most of us participate in such events. Indirectly, children are forming attitudes; they are learning that there is no fundamental difference between members of the human family. A champion can be a member of any race or nationality. As in the world of artistic endeavor, the national boundaries and artificial social barriers are ignored.

Broadcasts to the Schools on Physical Education. Except in schools of the air, radio programs specifically designed to provide experience in physical education for children are almost unknown. The Cleveland schools have long had available a series of broadcasts on physical education; in the past the aim was to furnish material to supplement and complement the teacher's work.¹³ The programs were given to help foster desired attitudes about physical education and to help the teacher improve the techniques of instruction. For the most part, the series has been one of in-service training for the teacher.¹⁴

"Primary Rhythmics" of the Indianapolis Public Schools is also designed to help the teacher. New methods, games, and activities are introduced or reviewed, and the programs help to unify the work in all the schools and to aid the classroom teacher to meet general standards for achievement. These programs are broadcast to the classroom.

WHA, University of Wisconsin, experimented with a series, "Fit for Service" (1944-45), which emphasized the need for good physical health and devoted certain programs to muscular efficiency, rest, and

¹³ *Report on Radio Activities* — Station WBOE, 1938-39, pp. 57-58.

¹⁴ "WBOE — His School Station's Voice," Bulletin issued by the Cleveland Board of Education, 1944, p. 5.

relaxation. This series proved so successful that it has been followed by another series (1946-47), "Fit for Fun." Also broadcast by WHA is the "Rhythm and Games" series. This program, established in 1933, is designed for the kindergarten and first three grades. It does much to teach bodily coordination along with simple play, games, and skills.

In most instances, as a matter of fact, broadcasts on physical education emphasize rhythms and dancing. This is understandable. Radio can provide an exceptional array of music, and work in rhythms and dance is individual and creative.¹⁵ Physical education, particularly through the dance, is an important form of creativity. When dancing, the individual expresses his own ideas and emotions, and he learns to control his body so that it becomes a flexible medium for individual expression. As the range of physical skill grows, the need for better body control increases until the child needs to analyze bodily movement. The analysis may lead to further study of movement and possibly to the desire for greater precision. Although certain fundamentals must be learned, the radio teacher can describe and illustrate simple rhythmic meters and even steps. Moreover, radio teachers can usually depend on some demonstration and aid from the classroom teacher, especially if instruction sheets have been distributed in advance of the broadcast.

Physical education by radio can begin in the lowest elementary grades. Children in the kindergarten and the first three grades like to move for the sake of movement and find joy in self-expression by running, whirling, marching, and skipping. They quickly learn simple elementary concepts of following directions in moving back, forward, and to the side. Concepts of high and low or fast and slow are gained through jumping and running. The dynamic concepts of light, heavy, big, and small may be formed in relation to physical activity.

In the primary grades it is particularly important to integrate physical education with other curricular subjects. Many classroom experiences may lead to training in physical education. Individual or group participation in physical education can be more meaningful if the children are told that these activities are reflections of our habits and our society. Our enjoyment of certain games and sports is determined by our national experience, our climate, our dress, and our physical structure.

¹⁵ See chapter on Creative Dancing.

Radio programs may offer experiences with literature, music, social studies, and natural science, which may lead to physical education exercises. The study of Canada may lead to the desire to learn the native dances and games of Canada. When children hear a radio story about Robin Hood, they may wish to try their skill at archery. The "Nutcracker Suite" or "Anitra's Dance" may stimulate the pupils to try various dancing steps. Hearing a broadcast about the habits of animals may result in projects in dancing; the children may endeavor to demonstrate the different movements of animals and to create dances to illustrate them. In "Rhythms and Games" (1944-45) Mrs. Steve included many games and dances of other countries: Canada, Russia, Czechoslovakia, and so on. These could easily be integrated into a study of the history or geography of the countries mentioned, or into a discussion of current events.

In noting the diverse possibilities, we pause to consider the following questions: Is learning games a form of physical education or is it a social study which educates the pupil in proper ways of using his leisure time? Is learning folk dance steps a form of physical education or a social study which leads the pupil to better international understanding? Perhaps the multiple objectives should not be isolated.

It is in the process of integrating the several phases of health education with other areas of learning that radio can assume a significant role, perhaps greater in its effect on the children in their out-of-school experience than in their classroom learning.

Safety Education. Successful teaching of safety requires that it should not be regarded as a separate subject to be considered ten or fifteen minutes each day, whether that time be spent in listening to a radio program or in engaging in class discussion. To teach safety successfully, the instructor must help pupils form attitudes and habits which will contribute to the conservation of human resources. This requires constant vigilance by the teacher to find opportunities to correlate the topic of safety with the different subjects of the curriculum and the daily experiences of the pupils. We consider safety education here because there is a natural transition from lessons on health and physical education to lessons in safety; all three are concerned with the welfare of the individual and of society. Safety education should not be isolated, however. While specific instructions and suggestions may be given for increased safety to the individual and

his companions, emphasis should be on *why* as well as *what*. Safety education should be related to other subjects, for there is grave danger lest the lessons become merely a recital of do's and don'ts.

Radio can be particularly helpful to the teacher in making the work in safety agreeable and meaningful. Accidents occurring to characters in radio serials or dramas may be noted, and the class may discuss ways in which the lives of these imaginary individuals might be changed if the accident had not occurred. Pupils may be asked to watch for foolish or foolhardy actions contrary to the safety rules. News of real accidents can be a particularly vivid point of departure for constructive work in safety education; the teacher must take precaution, however, against allowing discussion to become lurid or centered around sensational elements.

Radio Programs Offer Many Techniques. While specific radio programs concerned with safety are not numerous, they do have interesting variety. They may suggest refreshing techniques to the teacher in bringing essential information to his pupils. They may provide examples for him to follow and offer reminders of the urgent need for such training. Teacher training is an important function of many fine radio shows. While some of the radio programs are prepared for in-school use, civic organizations have for the most part taken the lead in such broadcasts. Police departments, safety councils, junior chambers of commerce, and youth organizations are active. Programs are usually broadcast at out-of-school hours. Interviews, dramatizations, narration, and quizzes are frequent techniques employed to appeal to children. One program, "Three — A Safety Man" (Portland, Maine), introduced a short message on safety before the narrator told a story. The safety director of the Chamber of Commerce in Columbus, Ohio, developed a program, "Always Be Careful," which described and dramatized the experiences of a family in their travels. There were many occasions for teaching rules of safety during the series.

A station in Louisville, Kentucky, also presented a series of dramatizations on a safety theme. This was "Grow in Safety." "The Save-a-Life Forum" (Oklahoma City) included a dramatization of the services of the highway patrol. Quizzes on rules of conduct for safety have been a popular feature. "Uncle Dave's Safety Club" of Los Angeles is an example. Interviews with children to ascertain their

knowledge of safety, their experiences, and their opinions have been very effective. The latter type of program provides excellent experience for the children, as well. Contests are sometimes used, and pupils may participate in forums and discussions on some phase of safety education.

Many programs are produced with the cooperation of school children. In some instances they help to write the script. Examples are "Grow in Safety," mentioned above, and "Mother Goose in Health Land" (Portland, Oregon). Often children are interviewed, as in "Ho-Po-Ne Safety Club" (Indianapolis) and in "Safety Drive Programs" (Holyoke, Massachusetts). In one series the children participated in many ways. Station WKRC (Cincinnati) in cooperation with the Parent-Teachers Association and the Metropolitan Traffic Safety Council offered a program, "Safety Patrol," to foster the safety of the children of the city. Almost every technique was incorporated — drama, poetry, songs, quizzes, and demonstrations.¹⁶ A typical program of the series may be noted in which a seventh-grade class presented a broadcast about bicycling. They produced a skit, sang a bicycling safety song, read original poems on the subject, and engaged in a discussion of the problem of bicycling and safety.

Participation in radio programs on safety, whether real or simulated, offers children a splendid focus of attention and a worthwhile endeavor for either in-school or extracurricular activity. Moreover, the program managers may consider that any well-conducted broadcast on safety by school children is a public service, for there is an urgent need for programs on this subject for both children and adults.

Again the teacher must be alert to occasional broadcasts which occur during the series designed for in-school use. For example, one of the series of "This Is My America" of the WLS (Chicago) School-time program was devoted to living safely. Every year there are special programs for special times, such as fire prevention week.

When the teacher does not have radio programs on safety education to enliven his work, he may look to scripts and transcriptions for aid. The Department of Education of Detroit distributes several fine scripts and transcriptions on safety education to local teachers,

¹⁶ Claude V. Courter, "Safety over the Air," *Nation's Schools*, XXIV (December, 1939), p. 44.

and the FREC Script and Transcription Exchange lists program materials which are available.

While the impact of most dramas, quizzes, or interviews regarding problems of safety is sufficient to impress the child with the importance of safety, and while extensive classroom explanation and follow-up are unnecessary for an understanding of the subject, there are avenues for additional work which may prove important. The teacher may wish to emphasize certain points, to clarify others, or to draw comparisons with current or local conditions. Vocabulary lists relating to safety may be compiled and standards of conduct may be established. Classroom demonstrations may be held of the right and wrong ways to cross a street, to reach a high cabinet, to ride a bicycle, or to roller-skate. Children may list the many things we often do which are dangerous: turn on the light with wet hands, "jay walk," try to find our way up or down unlighted stairs. These lists may be submitted to one of the safety councils with the suggestion for using them as fit subjects for radio programs. Each pupil might present a talk or skit for a simulated radio program which would illustrate some careless act or habit which might endanger his own welfare or the lives of others. Pupils may also write poems, songs, or stories about their experiences or beliefs concerning safety.

Visual aids are not essential to understand most of the safety material on the radio. Nevertheless, pictures, graphs, or demonstrations can serve to enhance the lessons. Inasmuch as safety education is a critical part of the general education of the citizenry, every effort should be made to insure lasting results.

Recently a rather grim series of dramatizations of traffic violations has been broadcast. Its apt title is "No Happy Ending." In this series the events leading to an accident are presented and the permanent effects of that accident on the lives of all who are involved are illustrated. Since the end of the war and the increase in the number of automobiles on the road, there have been many spot announcements urging people to drive carefully. Radio newscasters and announcers often incorporate similar messages about safety in their scripts, and the need for a greater attention to driving safely has been illustrated by incidents in some of the serial dramas. Similar announcements have been made regarding fire prevention, the eating of certain foods, and specific or local dangers. Similar attention might well be directed

to other problems of safety education. In time these campaigns should have a salutary effect on both attitude and behavior. It is the teacher's responsibility to seek approaches to the problem of safety education and to be alert to find broadcasts and recordings which may help his pupils to practice habits of safety as one means of their own preservation and that of society.

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Part VII

Administration of Radio Education

322

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Training Teachers

Section I. TRAINING TEACHERS TO USE RADIO

The administration of radio education is an extensive field which embraces the regulation of commercial broadcasting networks and the Federal Communications Commission as well as the numerous executive problems of national and local radio educational institutions and organizations. Administration in this volume, however, will be considered from the point of view of consumption rather than of production of radio broadcasts. Emphasis here will be given to the administrative problems which confront a school superintendent, a school principal, or a school radio education director. The term "director" shall apply to any one of these three. Administrative problems to be considered include teacher training, equipment, and scheduling, as well as the related problems of program selection, use of recordings, and cooperation with the school library.

Radio Education Needs the Cooperation of the Classroom Teacher. The majority of teachers are not prepared to use radio with any degree of efficiency. When radio is used by an untrained or inexperienced teacher it serves chiefly as an instrument for diversion or amusement. Most teachers who refuse to use radio do not know how to use it. In addition to this group are those teachers who are not eager enough to demand that equipment be provided or that traditional schedules be modified to permit its use. Indifference and animosity are usually the result of the teacher's lack of knowledge, training, or experience.

The production of educational radio programs is an arduous and expensive task, and the effort and money spent in this production is wasted unless the teacher can make such programs a vital part of his instruction. Already the producers have found the value of using experienced teachers to broadcast educational programs for children. Such teachers are able to visualize a classroom of pupils and imagine and anticipate their reactions. Most certainly the experienced teacher should take part in the writing of scripts and in the preparation of programs for broadcast. But the real responsibility of the teacher does

not lie in producing programs. Programs can best be produced by professional people who write and present the scripts with the cooperation of the educator. The real contribution of the teacher to radio education lies in the manner in which he can make the radio education program part of the educative process.

The Necessity of a Trained Coordinator of Radio Education. Until instruction in radio becomes more general, the classroom use of broadcasts would be enhanced by the direct supervision of a trained coordinator. The coordinator should be an expert in classroom procedure as well as a person who understands the mechanical problems related to radio equipment. When circumstances prevent the employment of a radio director, the responsibility must lie with the superintendent or the principal until a supervisor or coordinator can be trained. Few school systems, however, can be found without at least one teacher who is an enthusiast in radio education. Teachers should know that their principal is heartily in favor of classroom use of radio. The amount of specific help and encouragement which each individual teacher receives is largely dependent upon the principal of the school.

A coordinator should be appointed from the faculty for his enthusiasm and because of proved ability to use radio in a classroom. Regardless of who he is, the coordinator must show a willingness to experiment, knowledge of the advantages and limitations of radio, familiarity with radio education literature, and at least a rudimentary knowledge of the technicalities of radio equipment. As soon as possible, the coordinator should get experience in a radio workshop both in the production and in the writing of scripts. Such a background is indispensable to an appreciation of radio education and in the selection of programs fit for school use. Above all, the coordinator should have the ability to get along with people and to work with those teachers who are at first unwilling to accept this new educational medium. A coordinator who possesses these attributes will find that most teachers will want to learn how to use radio programs in their own situations and will welcome the help of a sympathetic colleague.

The coordinator of radio education will find it his task to maintain suitable relationships between teachers and between teachers and administrators. By regular consultation with instructors, followed by

frequent classroom visitation, and by holding group meetings, objectives of radio education can be formulated and the content areas which the programs are designed to supplement determined. Experiments for evaluation should also be considered. Teachers should be informed of radio education in other schools and of national trends and developments in the radio industry. The coordinator must remain up to date professionally by keeping in touch with local radio stations and by attending radio education workshops, conferences, and meetings.

The coordinator should accept the responsibility of helping the teacher arrange a teaching schedule in which radio programs can be introduced. Teaching schedules should also permit instructors to visit other classes and schools. The coordinator must provide help in securing and selecting suitable radio equipment, recordings, visual aids, and reference books and must provide replacement of defective or worn equipment. He must instruct teachers how to operate receivers for tuning in, for volume control, and for good reception. The coordinator has in addition the duties of supervising radio workshops and of serving as a consultant in the writing of scripts for in-school productions.

The coordinator will aid in the dissemination of information about all useful programs available over local stations and networks. He will promote effective utilization of these programs by supervising the preparation of such supplementary material as radio bulletins, lesson manuals, and visual aids. He may expect the cooperation of the school librarian, for much of radio education is directly connected with the librarian's duties.

Current Methods Used in Educating Teachers to Use Radio. The education and training required to acquaint teachers with the values of classroom radio listening and the techniques for using radio in the schoolroom should be a gradual process. Teachers who use radio without adequate preparation are apt to regard it as a device of merely passing interest. At best, radio will be regarded as an instrument for recreation and entertainment. Too often a broadcast is used to relieve the teacher of the routine and effort that accompany a lecture or the presentation of a lesson. Gradual installation of equipment, gradual experimental selection and use of programs accompanied by some form of evaluation, gradual acquaintance with what has been accom-

plished by radio education — these are the keys to successful teacher education.

The in-service training of the classroom teacher requires a definite technique as well as much patience and tact. The success of radio education depends on the cooperative assistance of many individuals. Although the teachers' meetings are vastly overworked, there will be a necessity for consultations to consider radio education. Committee projects will often promote a better perspective toward the broader aims of the whole educational program.

The most common device for educating the teacher is the circulation of a bulletin to call attention to new available programs, to list announcements of new books on radio education, and to offer suggestions for using radio in the classroom, including methods, supplementary reading, and visual aids. Close cooperation with the librarian will aid in the discovery of current supplementary reading and visual aids.

Intervisitation is always stimulating and usually profitable in educating the teacher to the use of radio. This can be closely associated with demonstration lessons by a master teacher either in the classroom or at the microphone. Once the teacher is aware of the effective role radio may play, and once he observes the simple adjustments to accommodate a broadcast within the schedule, he may be more eager to experiment.

In-service training should develop knowledge of radio education problems, methods, and sources, and a discrimination which will enable the teacher to choose radio programs appropriate to each subject area. The training must be slow yet thorough, a process which must be evolved, not imposed. Under no circumstances should a teacher be compelled to use radio equipment. Actual equipment in a classroom, however, may do more to train the teacher than any number of preliminary lectures or discussions. Equipment should be placed first in those rooms where teachers are enthusiastic. It is here that radio will be used most effectively because the teacher is convinced of its value.

In many schools the radio workshop has proved to be a good teaching device. These workshops may be used to prepare in-school productions, or to undertake programs which can be broadcast over a local commercial station. Radio workshops perform the purpose of teaching the techniques and methods of radio broadcasting, the se-

lection and use of radio equipment, and the use of radio programs for the classroom. Colleges are not only offering special classes and workshops in radio education; in some cases a four-year course is offered with a radio major.¹

Formal Methods of Training Teachers for Radio Education. Fortunately, academic training in radio education is being offered in an increasing number of institutions. There is a promising professional field for teachers interested in educational radio. The most successful broadcasters have been teachers of merit, who are able during the broadcast to visualize a classroom of pupils and to imagine the pupils' reactions. Such teachers have a keen sense of timing. They are of invaluable aid in preparing scripts or in supervising radio work. Some schools require this training. Several radio institutes employing the services of professional radio personnel and educators have been established. For the first time in the history of educational broadcasting, the Board of Education in New York City has approved for full credit two courses for teachers based on radio programs.² The commercial broadcasting companies are also liberal with demonstrations of teaching over the radio. The Columbia Broadcasting System did not have its first demonstration until 1938 but it has since presented demonstrations for schools, conferences, and associations. Typical of this method for educating teachers in service was the Radio Institute for Teachers, first broadcast by CBS in 1938.³ This institute was designed to show how educational programs may serve as an aid in the schoolroom. A group of seven hundred teachers was invited to attend a broadcast of "Frontiers of Democracy." From these teachers was chosen a group of individuals to make up a round table discussion on the use of radio. These teachers and the rest of the audience then participated in a panel of criticism and questioning. The entire program was broadcast.

The suggestion has been made that a national conference or convention without a national center be established to use radio as the integrating agent in broadcasting to organized teacher groups. An outline could be prepared and sent to the local planning committee

¹ Carroll Atkinson, *Education by Radio in American Schools* (George Peabody College for Teachers, 1938), p. 72.

² *Journal of the Association for Education by Radio*, III (January, 1944), p. 2.

³ "A Radio Institute for Teachers," *School and Society*, XLVIII (October 8, 1938), p. 454.

in each city. The local committees could arrange for speakers and discussion panels to participate in nationwide broadcasts.⁴

The School Library and Classroom Radio. Librarians have an important place in classroom educational radio. Their cooperation is required in the collection of program sources, in the description of radio programs, and in the collection of additional materials related to broadcasts. A supplementary reading list is often prepared from this material and given to the teacher as a radio bulletin. Printed materials may include synopses, discussions, dialogues, exercises, interviews, lectures, lessons, quizzes, speeches, narratives, and music.

Not least important of the duties of a librarian is the cataloguing of recordings and visual aids which can be used in connection with radio programs.⁵ Librarians should also know where radio scripts can be purchased or borrowed. They may even start a file for scripts within the local school library. The American Library Association Headquarters, for instance, has begun a collection of library programs for a possible library script exchange.⁶

Inasmuch as the availability of information about radio and its allied aids is a major problem in teacher training, the service of the librarian may be judged essential. We may suggest that the librarian be relieved of as much routine work as possible, however. A librarian should work with the radio coordinator, rather than have the sole responsibility for presenting the information to school colleagues.

Section II. SCHEDULING

Administrative Problems of Scheduling School Radio Programs. Scheduling programs for school use presents the most difficult problem of radio education. This difficulty arises from the fact that in spite of the modern philosophy of integration of instruction, the subject-divided curriculum is still the predominant type of curricular

⁴ "Radio Holds a Convention," *Journal of the Association for Education by Radio*, II (April, 1942), p. 2.

⁵ For a detailed account of a workable card index and filing system see Alice W. Manchester, "Setting up a Recording Library," *Educational Research Bulletin*, XXIII (April 19, 1944), pp. 89-92.

⁶ Faith H. Hyers, *Library and the Radio* (University of Chicago Press, 1938), p. 88.

organization. From the administrative point of view, problems of scheduling require the solution of such questions as: How often should a radio program be scheduled? Who should select the programs to be scheduled? How can the teacher be informed of available programs? What are the best techniques of scheduling? In the following paragraphs each of these questions will be given individual consideration.

How Often Should a Radio Program be Scheduled for a Classroom?

The general purpose of the educational broadcast determines its proper frequency. Radio stations which broadcast programs designed to teach directly and formally are likely to broadcast more frequently — as often perhaps as once a day — than do stations offering programs for purposes of inspiration and motivation. For broadcasts given in a series, the frequency probably should be not less than one period per week, in order to guarantee the continuity of the subject matter. A series of broadcasts on a specific subject every day is probably too frequent for the teacher to integrate into his work. The class time devoted to listening to broadcasts might be better spent in other ways.

Who Should Select the Programs to Be Scheduled? The classroom teacher is the individual who should be most capable of selecting programs according to the pupils' needs. If the radio is "tuned in" by the principal from a centrally controlled sound system, the schedule should be previously arranged in cooperation with the classroom teacher. The needs of the pupil can generally be met if radio can supplement existing activities, motivate new activities, motivate drill in the tool subjects, or offer a refreshing experience. Scheduling requires a standard of selection which is determined not only by the philosophy of education of the selector, but also by the objectives chosen for the school curriculum.

Courses of study throughout the nation are not so standardized that radio programs broadcast at a given time will fit into the logical sequence of subject matter. For this reason national programs can be prepared only after making thorough examination of hundreds of representative courses of study. Broadcasts designed for national release can at best offer programs directed to the average school.

The problem of selection is further complicated because many schools forbid the tuning in of sponsored broadcasts during school

hours even though the content may be educational. Other schools include sponsored programs on the theory that since the school cannot protect children from advertising at least it should attempt to guide their use of it and their reaction toward it. The latter attitude is supported by the fact that it is impossible for the school to censor children's out-of-school listening. The teacher is neglecting an opportunity if she fails to guide the pupil through classroom discussion and analysis of out-of-school programs. This cannot be intelligently handled by forbidding them to listen to commercial programs in the school. Some commercial programs are excellently adapted to classroom use. The Standard School Broadcast series, for example, is one of the best available for school use. Some excellent newscasts are also commercially sponsored.

Advance Knowledge of the Content of a Radio Program. Curriculum development and planning demand that the content of source material be known in advance. Radio broadcasts can be considered as one important phase of source material from which the aims of education can be accomplished. Unless the content and schedule of a radio program is previously known by the teacher the time taken to listen to the broadcast is usually wasted. For illustration, let us take a fifth grade class in the midst of a study of South America. Suddenly, the centrally controlled sound system is tuned into a program on the Hindus of India. Time out is taken to listen to the broadcast, but at its conclusion the class immediately continues with the study of South America. The broadcast is virtually a total loss. It merely provided an interesting interlude for the pupils.

If a broadcast is to be of value it is of primary importance that teachers and pupils be prepared to receive it and that the subject matter fit in with the general schedule. Unless the teacher can know far enough ahead just what the content of a broadcast will be so that adequate preparation and adjustment can be made, school time can be more appropriately spent in some other activity.

The possible flexibility of a given broadcast in relation to the curriculum is greatest in the lower grades. Although many elementary grades still provide a uniform number of minutes for each subject at the same time each day, if he knows far enough in advance what the broadcast will be, the teacher may rearrange the daily schedule or prepare the class to respond to the broadcast as a normal sequence

in the day's work. This is more practicable where one teacher controls the work of the entire room each day.

Suggested Radio Scheduling Techniques. The technique of scheduling radio programs for school use requires an intimate knowledge of the curriculum planned for the particular school. As stated in preceding paragraphs, the first essential of scheduling involves proper program selection. The choice is determined not only by the appropriate curriculum integration but also by appropriate age-grade qualification. Full realization of this standard requires that advance information of the program be obtained by the school.

One of the best ways to solve the scheduling problem is to organize a radio committee in each school building or school system to plan the programs. This committee should be guided by the following routine:⁷

1. A radio log of all stations should be made available.
2. The log should indicate programs from national and local stations.
3. National companies should send manuals and listings upon request.
4. The listings should be checked carefully for series or titles of programs that are appropriate.
5. Write for further information after the possible "desirable" broadcasts have been selected.
6. The final schedule should give:
 - a. Title of series.
 - b. Title of each program.
 - c. Name of speaker.
 - d. Name of sponsoring agency, stating whether it is commercial or noncommercial.
 - e. Day, date, and time of broadcast.
 - f. Station from which program will be broadcast.
 - g. Information about the content of the program.

The Role of the Administrator in Scheduling Radio Programs. The administrative problem of scheduling is sometimes solved by selecting one period per day as an activity period when pupils may hold committee meetings, rehearse school plays, or study, according to

⁷ These steps are similar to those suggested by Margaret Harrison, *Radio in the Classroom* (Prentice-Hall, Inc., 1937), pp. 31-33.

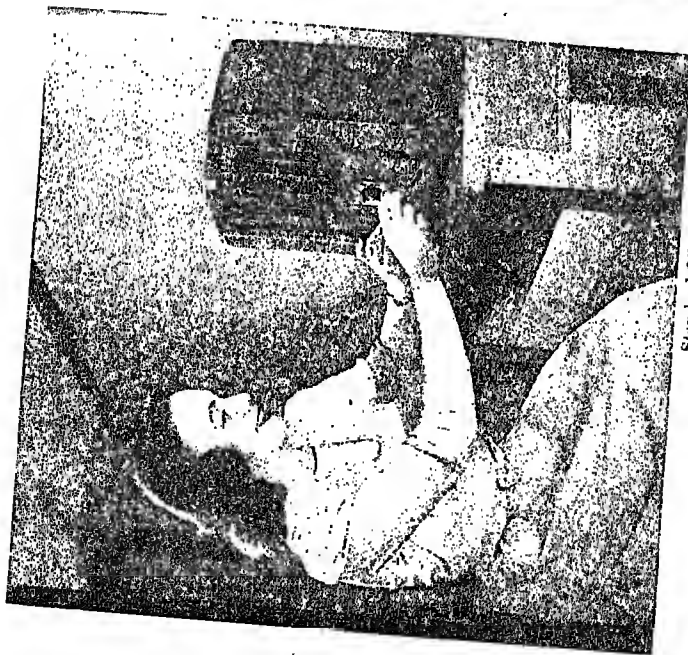
their individual needs and preferences. Broadcasts are heard during this activity period so that listening does not conflict with any classes.

A variation of this plan is to set aside one period every day for radio reception exclusively. The program changes daily. For example, the pupils hear folk songs one day, radio plays the next day, fairy tales the third day, dramatized history the fourth, and recitations from or lectures on authors, poets, and composers the fifth. The different grade levels can listen to varied programs appropriate to the level of the class. This is arranged by a schedule which calls for a different group of pupils each day.

National network officials find it difficult to meet the convenience of schools in four different time zones. It is also difficult for these officials to judge what specific material will meet the standards of the several educational philosophies and will fit in with such a variety of classes as are found in the nation. As a result, most national programs are designed for inspirational and cultural effect so they can be used by pupils of several school grades. Some commercially sponsored broadcasts, however, have solved the time problem by using electrical transcriptions. This may be an expensive process, but it promises also to solve the problem of broadcasting educational programs at the convenience of the school. Broadcasting to the classroom presents such problems of time and curriculum that educators are hoping that as the number of FM stations is increased and the number of local programs for the school grows, teachers will find adjustment less difficult.

Avenues of Information on Radio Education Schedules. Several methods can be suggested for informing the teacher of the time and content of radio programs. The most common avenue of notification of broadcasting schedules is the newspaper. Newspapers, however, are not altogether reliable as a source of information about radio programs. In the first place, the newspapers in some cities carry no regular information, and when data is given it may be limited to the mere listing of titles on the usual quarter-hour schedules. Even teachers who know what they are looking for are frequently unable to locate programs. Systems of program listing are improving, however.

In some schools the principal makes a log of the educational programs. This log is based on the teachers' manuals sent out by the



Standard Oil Company of California

Curriculum Development and Planning Demand that the Teacher Be Familiar with Radio Programs and Techniques.



Standard Oil Company of California

The Program Schedule Should Be Arranged by the Principal and the Classroom Teacher if the Broadcast Is Centrally Timed.

broadcasting stations and production units. The log is put on the bulletin board, and the teachers sign their room numbers and grades in the proper spaces if they think their pupils would profit by the programs. Following is a sample schedule which is to be completed by the teacher:⁸

A SAMPLE RADIO SCHEDULE

TIME	STATION	GRADES	ROOMS	PURPOSE	PROGRAM
Monday Dec. 4 2:30-3:00	WCCO	7A 7A, 7B	207 203	Frontiers of Democracy	Tomorrow's Fuel
Tuesday Dec. 5 1:30-2:00	WLB	7A, 7B 6B 3B, 2A 7A 3A, 3B 6A	203 201 102 207 210 205	Symphony Review	Records for Symphony Dec. 7
Wednesday Dec. 6 2:30-3:00	WCCO	4A, 4B 7A 3A, 3B 5A	208 207 210 209	New Horizons	Down the Mississippi to the Sea
Friday Dec. 8 2:30-3:00	WCCO	7A	207	This Living World	Our Flag in the Far East

Such a bulletin is without question an excellent means of keeping the teacher informed. At first this may be a general bulletin listing programs available as a series, but later this should be developed into a weekly bulletin of individual titles, days, and hours. Still later, information can be obtained from a teachers' handbook or manual which will describe the content of the program and suggest ways of using it in the classroom. These handbooks should be the result of teacher workmanship.

Professional educational magazines are sometimes used to inform the teacher of current national and regional radio programs. The United States Office of Education, the national networks, and local stations prepare many attractive announcements with annotations

Ruth E. Jones, "Language Development via Public Address System," *Journal of the Association for Education by Radio*, III (April-May 1944), p. 6.

explaining program titles. State colleges, too, often distribute leaflet announcements.

The remarks found in a pamphlet published by the Los Angeles City Schools regarding radio bulletins are worth noting here. While each school receives several copies of the *Radio Bulletin*, there are not enough copies for all teachers. Special provision has to be made for (a) hectographed, mimeographed, or carbon copies, or (b) a carefully administered plan of circulation of the bulletin within the school.

Merely posting the *Radio Bulletin* on the faculty bulletin board is an ineffectual method of informing the teachers of radio's resources and possibilities. Several practical suggestions for the effective handling of the bulletin are listed below:⁹

- I. A radio chairman is elected or appointed to coordinate activities of radio education for the school.
- II. A small radio steering-committee of teachers and pupils is organized to plan for the most advantageous school-wide use of available receiving sets and of the *Radio Bulletin*.
- III. At a special faculty meeting early in each year's schedule, radio possibilities for the school are discussed, including such topics as the following: What does the *Radio Bulletin* contain and how have its contents been organized?

Parts of the Radio Bulletin:

- a. *Radio News Letter* — An introductory section calling attention to outstanding features for the week.
- b. *Index* — A quick-reference arrangement of all programs recommended for the current week, listed under subject-fields arranged alphabetically, and specifying day, hour, and station for each program.
- c. *Your Radio Program Chart:*
 - The Dial* — Kilocycle indications for all stations referred to in the bulletin.
 - The Program Chart* — Annotated daily schedules of all recommended programs.

How many receiving sets have we in our school? To whom do they belong? To the student body? To teachers? How many classes are now being served

⁹ Los Angeles City Schools, *Radio Learning* (Superintendent of Schools, Los Angeles, California, Undated), pp. 15-18.

by them? Could their use be extended to more groups than they are now serving

.... by combining classes in larger rooms or in the auditorium for special radio programs?

.... by devising a schedule in accordance with which school-owned receiving sets may be shifted during the day to meet diverse classroom needs at different hours?

- IV. Space in the school paper is set aside for announcing radio programs, especially such as are featured in the *Radio News Letter* section of the *Bulletin*.
- V. The *Radio Bulletin* is "broken down" into subject-field sections and posted on special departmental bulletin boards, as Music, Social Studies, English (literature, speech, etc.).
- VI. The *Radio Bulletin* is "broken down" into daily charts which are published as part of the daily office bulletin.
- VII. Copies of the *Radio Bulletin* are posted for use of both teachers and pupils on bulletin boards in the main corridors, in the school library, in the cafeteria, etc.
- VIII. A Radio Consumers Club is organized with the purpose of increasing radio enjoyment and appreciation among its members and also of promoting the effective use of radio throughout the school, with special reference to the *Radio Bulletin*.
- IX. Pupils are encouraged to take copies of the *Radio Bulletin* to their homes in order that their families may profit by its guidance.

Scheduling Radio Broadcasts for Special Listening Rooms. The policy of scheduling a radio broadcast to definite rooms, thereby making it necessary for a class to change rooms in order to listen, is satisfactory only on exceptional occasions, as when there are not enough radio receivers in the school to accommodate a large group of pupils who would benefit by hearing a special program. In order to receive the broadcast, several classes may have to crowd into one room or move to some central place.

To have rooms set aside especially for radio reception necessitates too great a loss of time in shifting groups and getting pupils settled in a listening attitude. Strange rooms, new associations, and strange instruments all offer too many distractions for a successful learning situation.

Illustrative Schedules. Sample schedules selected for the purpose of illustration are shown on the following pages. They represent

practices of widely separated school systems, each served by the national networks, yet especially served by regional broadcasting stations.

Example No. 1

Example of Radiogram to Indianapolis Public Schools.¹⁰

WLS 890	RADIOGRAM FOR ALL SCHOOLS		WIBC 1070
	WBAA 920	WFBM 1260	
	WISH 1310	WIRE 1430	

Vol. X, No. 1	October, 1946
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AMERICAN SCHOOL OF THE AIR GRADES 5-12 <i>Mon., Wed., Fri., WFBM, 2:00-2:30 PM</i>	PEOPLES OF ASIA (ET) GRADES 5-12 <i>Thursday, WISH, 2:30-2:45 PM</i>
Oct. 7 — World Neighbors	Oct. 3 — China — Hon. Walter H. Judd
Oct. 9 — March of Science	Oct. 10 — Thailand — Minister of Thailand M. R. Seni Pramoj
Oct. 11 — Tales of Adventure	Oct. 17 — Korea — Dr. J. Kyuang Dunn
INDIANAPOLIS HIGH SCHOOL HOUR <i>Thursday, WISH, 2:45-3:00 PM</i>	Oct. 24 — State Teachers' Association
Oct. 3 — Washington High School	Oct. 31 — India — Dr. Horace I. Poleman
Oct. 10 — Technical High School	
Oct. 17 — Manual High School	NOTE
Oct. 24 — State Teachers' Association	<i>Preparation for listening should include a study of the map of the country</i>
Oct. 31 — Broad Ripple High School	

¹⁰ Reprinted by permission of the Indianapolis Public Schools.

SCHOOL TIME		LIBRARY STORY HOUR	
<i>WLS — 890 — 1:15-1:30 PM</i>		<i>Thursday, WIBC, 10:30-10:45 AM</i>	
<i>Each School Day</i>		GRADES	
	GRADES	Oct. 3 — 500 Hats of Bartholomew Cubbins	1-4
Mon. — Adventures in Health	4-8	Oct. 10 — The Lost Half Hour	4-6
Tues. — American Writers and What They Wrote About	5-12	Oct. 17 — The Spinning Plate	1-4
Wed. — Magic Harp	4-12	Oct. 24 — State Teachers' Association	
Thurs. — Visiting Day	5-12	Oct. 31 — Halloween Story	1-6
Fri. — We Look at the News	5-12		

PURDUE SCHOOL OF THE AIR

WBAA — 920

			GRADES
Monday	10:30-10:45	Mathematics	9-12
	1:30- 1:45	Lady Storyteller	1-3
Tuesday	10:30-10:45	Home Economics	9-12
	1:30- 1:45	Kiddies' Listening Time	1-4
Wednesday	10:30-10:45	Agriculture School	9-12
	1:30- 1:45	Books Bring Adventure	4-8
Thursday	11:15-11:45	Citizens of Tomorrow Speak	9-12
	1:30- 1:45	American History in Song	4-8
Friday	10:30-10:45	Background of Biology	9-12
	1:30- 2:00	Great Men of Music	7-12

Example No. 2¹¹

RADIO IN-SCHOOL LISTENING PROGRAMS

Fall Term 1946, Portland, Oregon, Board of Education.

Every day at 11:45 a program prepared and produced by the KGW staff is broadcast over Station KBPS. These programs are as follows:

			GRADES
Monday	11:15	Great Moments in Oregon History	8
Tuesday	11:15	Builders of Oregon	2-4
Wednesday	11:15	Science By-Ways	6-8

¹¹ Reprinted by permission of the Portland, Oregon, Public Schools.

			GRADES
Thursday	11:15	Pan-America	6
Thursday	2:30	How Are You Feeling?	4-6
Friday	11:15	Current Events	6-8

KBPS PROGRAMS

Monday	11:00	Old Tales and New	Kindergarten-Primary
Monday	11:30	Nuggets of Verse	7-12
Monday	1:00	Lest We Forget — Series No. 10	
		These Great Americans — E.T.	7-12
Monday	2:45	Books Bring Adventure, No. 2, E.T.	4-8
Tuesday	1:00	Adventures in Research — E.T.	7-12
Tuesday	2:00	Chicago Round Table — E.T.	7-12
Tuesday	3:00	Safety Story — E.T.	7-12
Wednesday	10:45	Junior Town Meeting	7-12
Wednesday	1:00	Journeys Behind the News	7-12
Wednesday	1:30	Pacific Story — E.T.	7-12
Thursday	11:00	Storybook Land	Kindergarten-Primary
Thursday	2:45	Starry Skies	7-12
Thursday	3:00	Kid Critics — E.T.	6-8
Friday	1:45	Excursion in Science — E.T.	7-12
Friday	2:00	Invitation to Learning — E.T.	7-12
Friday	2:30	American Challenge — E.T.	7-12

KOIN PROGRAMS. American School of the Air

Monday	2:00	World Neighbors	4-12
Tuesday	2:00	Gateways to Music	4-12
Wednesday	2:00	March of Science	7-12
Thursday	2:00	Tales of Adventure	4-12
Friday	2:00	Opinion, Please	7-12

KGW PROGRAM

Thursday	10:00	Standard School Broadcast	4-12
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KOAC PROGRAMS. School of the Air. (Rebroadcast by KBPS)

Monday	1:15	Land of Make-Believe	Primary
Tuesday	11:00	Tell a Story	Primary
Tuesday	1:15	News Watch	4-8
Wednesday	1:15	Starry Skies	7-12
Wednesday	2:30	Stories That Live	6-12
Thursday	1:15	Let's Sing, America	1-8
Friday	1:15	The Boy Next Door	4-8

*Example No. 3*THE TEXAS SCHOOL OF THE AIR 1945-1946¹²

Teachers' Manual and Classroom Guide for

YOUR STORY PARADE

Schedule of Series

October 1-April 26

Mondays	Your Story Parade — Pre-school and Primary
Tuesdays	Open Your Eyes — Elementary, Fourth Grade up
Wednesdays	Forward with America — Junior and Senior High School
Thursdays	Jobs Ahead — High School and Adults
Fridays	Music Is Yours — Upper Elementary and Junior High School

Manuals are available to Texas teachers without cost.

*Example No. 4*ROCHESTER SCHOOL OF THE AIR¹³THE ROCHESTER SCHOOL OF THE AIR PROGRAMS ARE SUPPLEMENTARY TO
YOUR TEACHING

Programs will be broadcast each school day at 1:30 P.M. beginning September 23, 1946 and continuing through May 23, 1947.

THE MAGIC BOOKSHOP

MONDAY	The principal aim of this series of programs is to create and maintain an interest on the part of the boys and girls in the reading of good books. Each broadcast is a dramatization of a carefully selected book. Supplementary book lists are supplied to correlate with each program.
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THE ROCHESTER CIVIC ORCHESTRA

TUESDAY	Concerts will be broadcast October 15 and 22; November 5 and 19; December 3 and 17; January 7 and 21;
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¹² Reprinted by permission of the Department of Radio and Visual Education, State Department of Education, Austin, Texas.

¹³ Reprinted by permission of the Board of Education, Rochester, New York, Public Schools.

February 4 and 18; March 18; April 1, 15, and 22. These concerts and the commentaries presented by Howard Hinga are definitely keyed to the interests of young people.

SCIENCE AT WORK

This new series of interview programs will be broadcast on Tuesdays, alternating with the Civic Orchestra concerts. The programs will aim to give children understanding of the impact of science on our daily lives.

SCIENCE ADVENTURES

WEDNESDAY These programs aim to show dramatically the development of inventions and discoveries that have greatly affected the progress of civilization. Programs will be grouped under these headings: Aviation, For Art and Industry, This Earth of Ours, For One World, Power to Use, and Conservation.

PEOPLE IN THE NEWS

THURSDAY Mr. Naramore's unique talent for searching out interesting and important people has made these programs very popular. They bring boys and girls first-hand information and understanding of local, national, and international social and economic problems.

NEWS TODAY — HISTORY TOMORROW

FRIDAY This is the news summary, specially planned and prepared for young people. Mr. Ross is especially well qualified for this series because of his teaching experience, his interest in boys and girls, and because his present position as WHAM's News Editor causes him to be unusually well informed about world happenings.

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In-School Broadcasting

The Challenge of Performance. The actual use of the microphone has gained great popularity, since many children are eager to make broadcasts. While there are opportunities for actual radio performance by school children, they are infrequent, limited in scope, restricted as to the number who may be engaged, and seldom designed for the maximum benefit to the children. In considering radio as a tool for pupil advancement we must recall that a child's first need is individual, personal development. If the use of a microphone will help this development, then it is justified; on the other hand, if alien goals and interests become the primary consideration, then radio is useless, perhaps even harmful. If the objectives can be as fully realized without radio, then the use of this mechanical aid is a waste of effort. Before even considering broadcasting with school children, the teacher should be completely aware of these facts.

Occasions for Radio Appearances by School Children. With the exception of those possessing certain precocious talents or overzealous mothers, few children enter radio professionally, and the educational benefits to those who do are dubious. Children often do participate in amateur radio programs and contests, but usually such programs depend upon certain elements not designed to uplift or educate either performer or listener. Aggressive youngsters, however, receive encouragement thereby and may seek further occasion for radio appearances. Seldom do such programs reflect the thought or activity of ordinary elementary school pupils in normal situations.

As for radio programs produced by pupils, they are seldom sufficiently professional to justify their intrusion on already crowded schedules. Actually, the production of programs for use on commercial radio stations would hardly be tried as a school project. Moreover, the appeal of such programs is limited. Few commercial sponsors would be willing to pay for the necessary amount of production help and time to give school programs the necessary professional polish. Few programs are offered over the radio merely as an educative experiment by commercial broadcasters. A high standard of information or entertainment for the listener must be the primary aim.

As long as we retain the present economic relationship between business and radio, financial returns from the programs offered must be considered. If educational benefits are also inadequate, then the entire effort has been misspent.

Some schools do, however, have radio time at their disposal. The purposes of a school system which endeavors to use the facilities of a commercial station, however, should be well defined, and the plans undertaken should not be too ambitious. Among the purposes such school programs may serve are the following: to give vent to the talent of school children, to advertise a particular type of school activity or event, to build closer relations between school and community through well-produced pupil programs, and to offer pupils intensified opportunity for creative work through the channels of professional radio production. Some of these same ends may be achieved through radio work within the school or over school-owned FM stations, thereby offering a larger percentage of pupils broadcasting experience.

Where FM and short-wave facilities become available, there may well be some interesting openings for pupil activity. For example, the pupils of Schenectady, New York, offered a glimpse of our American schools to fellow pupils in Europe and South America.¹ They brought some of our culture to the young people of other nations and helped to build goodwill and understanding. The elementary school pupils gave one half-hour program each week, and the secondary school pupils gave another. Together, the pupils of the two academic levels offered a splendid example of a typical school program. Inasmuch as this was a successful series, it might be well to consider the production procedure.

Conformity to commercial standards was maintained. The participants were tested for voice; scripts were submitted to editors well in advance; and the production was carefully directed and supervised. A detailed plan for the series was completed before the work was begun, and a complete schedule outlined. Each broadcast was assigned to one specific teacher in the school who was responsible for each program. In some instances pupils wrote the scripts; in others, a situation was decided upon and outlined by teachers, and then data

¹ P. Schuyler Miller, "Schools Heard Round the World," *School Executive*, LIX (January, 1940), 14-15.

and language were gradually added. Every effort was made to maintain spontaneity and to give an honest portrayal of events in this country. In one instance a forum-type of conversation went over the air without rehearsal and without the pupils' knowing that they were on the air. It was one of the most effective programs of the series.

School the Source of Broadcast Experience. Despite such occasions, actual broadcasting experience for most pupils is distinctly limited and the real opportunities are more likely to be within the school itself. Such experience will depend not only upon the purposes and the extent of the school program, but also upon the type and amount of the equipment available and the attitude of administrators and teachers. The finer and more extensive the facilities, the greater possibilities for broadcast work. This applies particularly to sound reproduction or experiments with recording and playback activities. Nevertheless, much can be said in behalf of permitting the pupils' own creative endeavor in setting up their own mock broadcasting units. Makeshift equipment which is unrelated to a definite school program for its use seldom yields beneficial results. Consideration of the type and extent of broadcasting, recording, and playback equipment is given in Chapter Twenty-one.

Methods and Facilities. In planning the work of in-school broadcasting, special techniques are determined by the equipment in use. Clever and resourceful teachers have planned simulated broadcasts with simple and makeshift materials. While the limitations of such equipment certainly curtail many activities in which pupils may engage, its use provides certain creative advantages. If the children are confronted with the problem of planning and presenting some in-class broadcasts and are told they must provide the means of creating the illusion of broadcasting, their imaginations will be stimulated not only regarding what material to use but also regarding the techniques of radio performance. Valuable suggestions may arise as they plan what to use for a microphone, how to secure sound effects, how to maintain the illusion of character and action by voice alone. The pupils will look for suitable materials in their immediate environment. Often they will want to read and to study some of the simple facts about radio production. The teacher should make available pictures, texts, and periodicals regarding broadcasting. If a pupil decides to put a box on a broomstick behind a curtain

to secure the effect of a simple studio, then something creative has been achieved. In advanced classes some mechanically inclined youngsters may wish to provide or simulate more elaborate radio equipment.

Schools must often rely upon the use of mock equipment. Even in instances where certain broadcasting and receiving facilities are provided by the school or school system, such equipment may not be available to all classrooms at all times. It may never be available for the simple, in-class broadcasting projects, the programs evolved by the class for the class. As a result the pupils may be dependent on their own imagination to devise background to give the effect of radio. To appraise the value of using mock broadcasting equipment, one must decide whether the emphasis is to be placed upon what subject matter the children present to one another, or upon the creative efforts involved to produce and present the broadcast. Of course, the physical work of assembling material for mock broadcasts should not be allowed to assume the major attention so that the creative effort is diverted from the paramount values of the broadcasting experience. The teacher should always direct the interest toward some fundamental curricular problem or idea. The two are, of course, inseparable, but there must be one focus of emphasis. Ideally, any project utilizing radio should seek to fulfill both needs.

The amount of facilities available will vary greatly. The pupils may be using a public address system in one auditorium or special room, or they may have access to actual studio equipment. A classroom may be furnished as a studio, with receiving equipment in an adjacent room. In other instances broadcasting, receiving, and recording facilities must be housed within the same room. In the latter cases the illusion of actual broadcasting is difficult to maintain, unless there are partitions between the two areas.

For most simple in-school broadcasting, the most effective work may be done by using whatever equipment is available within the room where the class habitually meets. Not only does this eliminate the wasting of time in moving to another room, but it also provides for the simultaneous use of facilities by many classes. Particularly is this important in a large school system in which competition for a single broadcasting room would be great. We must remember, however, that although the equipment may be available, the number of

radio programs presented is not important. If radio broadcasting within the school is to be regarded as a panacea or a magic realm of endeavor, if the teacher attempts to use classroom broadcasting for every need and every problem the results will deteriorate and become unprofitable.

Radio workshops may be valuable aids to in-school radio. While serving as an excellent place for extracurricular activities, particularly for pupils at the secondary school level, the primary function of the workshop in most elementary school systems will be to provide a place for demonstration and preparation by the teacher, and also for practice and work on special programs by pupils. The workshop may also serve as a centralized storehouse for all units and materials such as audio-visual aids. It may be operated in much the same manner as a library-laboratory combination. Because there is little occasion for intensive and prolonged use of radio broadcasting at the elementary school level, the younger pupil's participation in the workshops will be limited.

Restrictions and Possibilities. The choice of subjects and the techniques which the children may use for radio programs is limited only by the imaginations of all concerned. While we do not expect or recommend that a teacher or school attempt to employ all the opportunities for reference to radio or all the types of presentation, it is well to recognize many of these possibilities.

Among the values to be derived from such work we may note novelty appeal which projects for radio adaptation provide. There is a stimulus to the imagination in finding ways of bringing freshness and vitality into classroom routine. Renewed interest in old subject matter and impetus to fresh creative activity may result.

Radio can serve as a unifying, socializing experience. The pupils can plan and execute a project together, each adding ideas, each learning to listen courteously and tolerantly to the suggestions of his fellow pupils, each learning to offer and to judge ideas for a satisfactory completed project. The group may thus determine the merit of each contribution and evolve an over-all plan. Thereby pupils share the pleasures, the limitations, and the responsibilities of working together.

The work may constitute a portion of a long-term project. For example, it may serve as the culmination of a series of lessons de-



Education Section, War Finance Division and the San Francisco Chronicle

*The Actual Use of the Microphone Has Gained Great Popularity since
Many Children Are Eager to Make Broadcasts.*

voted to a particular phase of history. Usually projects involving any length of time and requiring sustained effort and attention are more suitable to upper classmen than to those in the lower elementary grades. With younger children, the desire and the plans for a radio program may be a spontaneous outgrowth of a particular story or idea from one lesson, prepared and presented without lengthy consideration. This latter use of the microphone calls for penetrating imagination and resourcefulness. Spontaneous projects are more easily fitted to individual speeches, commentaries, or simple dialogues than elaborate scripts requiring the sustained, cooperative effort of several pupils.

Older and more mature pupils may prepare programs to entertain and instruct younger pupils. As we have already noted, in an elementary school in London, Ontario, all the pupils meet each morning for opening services through the in-school radio. The pupils in grades three to eight take turns in conducting these fifteen-minute periods. The exercises include hymns, announcements, prayers, and a suitable thought or poem for closing. To provide variety for the programs there are songs, musical solos, and simple skits. At the end of each year those in the second grade receive training in radio techniques to familiarize them with their responsibilities as third graders the following year.² In the school system in Indianapolis the pupils of one school present their activities to listeners in the other schools.³ The Indianapolis schools, moreover, provide another type of program, "The Visitor," which is readily adaptable for pupils interested in in-school production.⁴ This program takes the listener to each classroom in the elementary school to note what activities are in progress there. Such programs offer considerable stimulus for extra-curricular work as well as an opportunity for developing the many skills of public performance. They serve to draw attention to some of the work the classes are doing, thus enlightening significant points or values that otherwise might be taken for granted. Such programs may serve as reviews or as previews in differing cases.

School situations which offer pupils opportunities for in-school microphone experience are: announcements, assemblies, programs

² Edna Arscott, "Our Experiments with the Public Address System," *The School* (Elementary Edition), XXXII (March, 1944), 592-94.

³ Bulletin issued by the Board of Education, Indianapolis Public Schools.

⁴ *Ibid.*

of music recordings, or transcribed network programs; introductions for speakers or performers; reports of excursions, experiments, or activities; presentation of plays, either original or adapted; readings, reports, or dramas for assembly programs; stories told by advanced classes to pupils in lower grades; discussion of school problems; rhythmic exercises and games; tests and quizzes; news bulletins and directions from the principal's office; radio drama workshops for planning and presenting programs; radio club or guild for administration; invitations to exhibits, special programs, and so forth.⁵ Moreover, the reading and writing of poetry or prose, book reviews, contests, discussions, forums, and countless other forms may be enjoyed through the use of the school microphone.

Two Methods of Production. In one type of production the class works on a script, writing it, then rehearsing it to the desired degree of perfection required for the occasion, and finally presenting it as nearly professionally as possible. This method is well suited to plays, adaptations of books, demonstrations, and analytical material. The other type of production, which may be described as the "creative rehearsal," proceeds as follows. Once the situation and the information to be presented are determined, the broadcast is discussed and planned by the whole group, step by step. The manner and content of production are thus gradually evolved. Usually this type of production goes on the air without scripts and may be written down accurately only during the presentation. Such spontaneous evolution is particularly well adapted to discussions and forums built around controversial material which interests school children. If well directed, this type of production should stimulate creative ability through the participation of all the pupils. Those programs which are first written and then rehearsed are usually the work of the few most aggressive or most talented pupils. It is the responsibility of the teacher to secure the cooperation of all the children in the class if broadcasting is to be a class experience.

Many teachers have found that radio work benefits English and speech classes, social studies, and other curriculum core areas not only through actual microphone experience but also by the study of radio and its meaning and background. In high schools regular classes

⁵ Some of these suggestions are made by Bernice Orndorff, "The Microphone in the School," *Secondary Education*, X (June, 1941), 145-47.

may be devoted to these considerations. While it is usually unwise to plan an entire course or a prolonged project on the work of radio at the elementary school level, still there are great possibilities.

It is entirely feasible to stretch the pupil's experience with radio over several days or weeks in connection with any subject area. Rather than devote too much attention to a program at one time, however, greater benefits may be had from repetition, constantly using new and varying emphases. It must be remembered that the fact that one has tried to produce programs for radio may well make one a more alert, more interested, and more critical home listener.

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Out-of-School Listening

RECOGNIZING THE INFLUENCE OF RADIO the authors have discussed some of the ways in which teachers may use it to advantage in the various curriculum core areas. While the writers were referring to the use of radio in relation to specific studies and were frequently concerned with in-school listening, the role of recreational out-of-school listening also merits special attention. Even if the teacher does not bring radio into the classroom by means of broadcasts, electrical transcriptions, or microphone experience, he can still turn to these media as a means of enriching and supplementing his work. This is particularly important if the teacher is to realize his function in fortifying and correlating the relations of the child in school with his home activities and in helping to provide training for life.

Out-of-school listening is of great interest to instructors and to broadcasting organizations. Many programs designed for education are available at hours when children are not in the classroom. This is especially true of programs offered for network release. CBS experimented in the 1945-46 school year in offering their American School of the Air at five P.M., Eastern Standard Time. This series was not available to most classrooms during school hours.¹ NBC believes that while the presentation of programs designed for in-school use is not the province of the networks, national broadcasting companies are justified in offering programs of an educational nature for home and family listening.² MBS and ABC apparently concur, for they do not offer school-of-the-air series.

In her very fine *Course of Study in Radio Appreciation*, Alice P. Sterner lists the following major objectives for work in appreciation and discrimination which may serve to clarify the picture:³

1. To broaden and enrich the world in which the student lives by his proper use of radio.

¹ *New York Times*, July 1, 1945, X5.

² At one time NBC offered the Damrosch Music Appreciation program for in-school listening, however. It proved to be a most successful series.

³ Alice P. Sterner, *Course of Study in Radio Appreciation* (Newark, New Jersey: Film and Radio Guides, 1941), p. 3.

2. To form another bond between the pupil's school life and the outside world.
3. To teach the students to employ the radio as a profitable, enjoyable means of using their leisure time.
4. To lead the student to formulate his own standards for radio programs.
5. To help in the formation of intelligent public opinion concerning radio's contribution to American culture and its future possibilities.
6. To increase the student's skill in listening, one of the important means of language communication.
7. To provide vital occasions for use of such skills as discussion, composition, letter-writing, and reading.
8. To develop critical evaluation of advertising by the individual.
9. To present the history and technicalities of radio as necessary knowledge in this modern world.
10. To show how the voice may give new meanings to the spoken word and thus have a powerful effect upon our emotions.

In considering training in program selection, we might examine the five objectives of training discrimination as suggested by Irving Robbins:⁴

1. Development of standards by the students to help them to judge radio programs.
2. Development of techniques for verifying information presented there.
3. Development of critical attitudes toward radio advertising claims.
4. Development of skill in preparing radio listening guide for students.
5. Development of student interest in good educational radio programs.

Several Types of Programs Available for Home Listening. In suggesting out-of-school listening as a supplement to assigned lessons, the instructor knows that there are many types of radio programs available. First we may consider programs devoted to stories, plays, and other literary material. Storytelling is one of the major fields for radio personalities. Among the programs to which the children eagerly listen are "This Is My Best," "The Lux Radio Theatre," "Best Sellers," and "The Eternal Light." There are countless daily serials which children follow. The best of these may furnish incidental information as well as entertainment. "Captain Midnight," "Terry and the Pirates," "Hop Harrigan," "Jack Armstrong," and others offer information about geography, current events, inventions,

⁴ Irving Robbins, *Teaching Radio Program Discrimination*, Evaluation of School Broadcasts, Bulletin 56 (Ohio State University).

inter-American relations, and so on. For younger listeners there are such national releases as "Let's Pretend," "Land of the Lost," "The House of Mystery," and "Lydia's Story to Order." Local stations in some parts of the country also offer fine programs for juvenile out-of-school listening. University-owned or -directed stations broadcast particularly fine dramatic stories for the young.

Well-presented musical programs may bring pleasure and relaxation to listeners of any age. They contribute a significant portion of all out-of-school listening. Understandably, programs devoted to a particular age group are the most effective, and several programs are planned to present musical programs which will appeal to children. For instance, KHJ (Los Angeles) presents "Symphonies for Youth" each Saturday; WNAD (University of Oklahoma) offers "Music for Children." "Music in the Air" and "Exploring Music" are Philadelphia programs for children.

News and news commentaries have become an integral part of our radio listening and have extended our understanding of the complexities of the world and of local and national problems as well. It is vitally important that children should listen to programs designed for their degree of maturity and their interests. Although mostly of local origin, a few such programs are available. "Youth Looks at the News" (WNAD) gives a significant commentary on current events three times each week. WSUI (University of Iowa) offers news of the day in terms understandable to children in the upper elementary grades (four to eight). Several experiments in a forum type of discussion of the news by school children have been made. One rather successful series is "Youth Looks to the Future," presented by KQW in San Francisco. This program brings children from different local schools together each Saturday afternoon to discuss various news questions of interest.

Although their educational merit may be questionable, quiz programs and certain types of variety shows stimulate interest and curiosity. The quiz programs bring incidental knowledge; moreover, they inspire further investigation. Such programs are very popular with youngsters. "Dr. I.Q.," "The Quiz Kids," "Twenty Questions," "Take It or Leave It," and "Double or Nothing" are among the favorites. "The Battle of the Books," part of the Chicago Public Schools broadcast series, is an excellent quiz program on books and

literary characters designed primarily for in-school use. Such a program may also be used for recreational listening, for it offers genuine educational values as well as the pleasant challenge of competition. The appeal of quiz programs currently on the air is primarily to high schoolers or to adult levels. There should be a ready market for quiz shows on the interest level of the very young listener.

Many service groups are providing entertaining and informative broadcasts, offering real profit to those who listen. For example, the Parent-Teacher Association brings "The Baxters," a serial drama dealing with current problems confronted by the typical American family. The American Red Cross, the Junior Leagues, Scout groups, and others are also offering programs of entertainment and information.⁵ Although their radio time is extremely limited, such service groups may present significant information as well as provide interesting out-of-school experience.

The goal of the teacher in regard to outside listening is to lift the level of voluntary program selection and to enrich the child's appreciation of what he hears. Most children are rather limited in the range of their listening, and much of what they like is relatively valueless. When attempting to remedy this condition it is more effective to introduce them to new programs than to condemn those they have already chosen. Wise program selection is one of the paramount considerations.

The methods which the teacher may employ to make his pupils conscious of better programs are manifold. Regardless of whether he can or does discuss radio programs at length, the teacher may indicate the best that is being broadcast. The bulletin board in the classroom provides a place for listing interesting programs given over local stations. This listing may include the time of the broadcasts and as much other pertinent information as the teacher is able to assemble. Pictures, displays, maps, diagrams, and all types of supplementary material related to current radio programs may be exhibited.

Questionnaires, reports, discussions, and comparisons of preferences in programs all constitute an important part of classroom preparation for out-of-school listening. Class attention to program selection may be focused by distributing a questionnaire on broad-

⁵ For instance, the Junior Leagues of America are distributing their second series of the programs, "Books Bring Adventure." *New York Times*, May 27, 1945, X5.

cast preferences. Each pupil lists five or ten favored programs; results may then be tabulated and discussed. By no means should the teacher label programs listed as "good" or "bad." His responsibility is to suggest better programs to the pupils, to help them establish standards by which they may select and judge what they want to hear. The teacher should stress sources of information to guide them to good listening, and should provide practice in using these sources. He may emphasize the need for planning in order to profit most from radio listening. Together, teacher and pupils may discuss various problems; these questions are suggestive: How should you decide what to dial in? Are the best programs the best advertised? Can you always find an appropriate program when you wish to listen? Such questions may lead pupils to evaluate their own use of radio.

In order to initiate discussion, the teacher may ask the pupils leading questions about what they like and do not like, the meaning of what they hear, how much they remember of it, and so forth. Discussions should be informal and lively, offering each child an opportunity to describe his own experience with radio. Children will learn from one another, and their thoughts and attitudes will be improved and crystallized as the result of examination and discussion.

In considering the values of out-of-school listening, we must recall that preparation and follow-up work are essential, just as when radio is used within the classroom. The teacher must make available information about programs he recommends, the reasons for listening, and the content to be gained.⁶ Because the teacher cannot control the environment of out-of-school listening, he cannot anticipate how much attention his pupils give to any broadcast. Therefore programs outside the classroom can serve only as an auxiliary source of information and enrichment. As a rule, suggestions given by the teacher for out-of-school listening may be less specific and more diverse than those made in preparation for a program heard in the classroom.

In some instances radio clubs are fostered as an extracurricular project. As a result of club activities valuable interest in broadcasting may be acquired. It is at the secondary school and college level that such radio organizations realize their greatest fruition. However, when elementary school pupils express an interest in clubs and take the initiative in establishing them, the teacher may take advantage

⁶ Listening should not be merely an assignment but rather a voluntary experience.

of such activities as valuable allies in the work of developing radio discrimination.

Alice P. Sterner offers the following questionnaire as a starting point for training in appreciation and discrimination:

1. Name your five favorite programs in order of your preference.
2. Name three types of programs you prefer in the order of your preference.
3. What time of day do you prefer to listen?
4. About how many hours do you listen?
5. What programs don't you like?
6. Has any program influenced your life? If so, name the program and tell what you were led to do.
7. Who is your favorite radio actor?
8. What programs make you laugh most?
9. Which do you remember best?
10. Which is most exciting?
11. Does anyone listen in with you? If so, who, and how often?
12. Do you do anything else while listening? If so, what are some of these activities?
13. Do your parents advise you about your choice of program?
14. Which programs would you like to hear more of?
15. Which would you rather do:
 - a. Listen to the radio or victrola?
 - b. Listen to an orchestra on the radio or on the stage?
 - c. Read a book or listen to the radio?
 - d. Read the "funnies" or listen to the radio?
 - e. Listen to the radio or go to the movies?
16. Have you ever written fan letters or letters in contests? To whom?
17. How do you choose your programs? Consult a magazine like *Film and Radio Discussion Guide* or a newspaper; seek advice from a friend, a parent, a teacher; other habits?
18. Have you ever seen a broadcast? If so, what?
19. Have you ever entered a radio contest? If so, what?
20. Do you study and listen too?
21. Have you ever been led to read a book by listening to the radio?
22. How many radios have you at home? Where are they? Do you have one in the car?
23. Is there ever any disagreement between members of your family who wish different programs? How is it generally settled?
24. What is your favorite type of music?

25. Do you get your news mainly from radio or from newspapers? If the former, name your favorite program.⁷

Obviously, this is a very elaborate questionnaire, perhaps too detailed for use in the elementary grades. It does indicate, however, how broad is the area of inquiry. In replying to such a questionnaire, the child has an excellent opportunity to survey his listening habits and to make way for the formation of new and improved ones.

In preparing the pupils for out-of-school listening, there is a need for the establishment of standards by which to appraise various types and examples of programs. The National Association of Broadcasters offers these questions which the teacher may ask himself before recommending a program to the pupils:⁸

1. Is the program based on children's interest?
2. Does it come at a suitable time?
3. Is it well presented technically?
4. Is it emotionally satisfying?
5. Does it meet the particular needs of the child or children for whom I am recommending it?
6. Is it valid?
7. Is it of general interest?
8. Is it closely correlated to our work in school?
9. Do the programs which I recommend present a variety of experience?

To these simple guideposts the teacher must add his own criteria, which he should establish as a result of his experience with radio education and his pupils. The teacher's proper role is as adviser.

The real problem is to guide pupils to organize their own standards which they will accept as criteria for listening. It is educationally more important for each pupil to adopt individual standards than it is to accept ready-made standards listed by teachers. Standards should allow for personal tastes and interests, but the children may learn much about social cooperation by working out their criteria together. Students should devise their own standards for general listening, and later choose specific standards for specific types of programs, such as news broadcasts, quiz shows, dramatic programs, and music series. The teacher must be prepared to direct youthful thinking

⁷ Alice P. Sterner, *op. cit.*, p. 5.

⁸ *How to Use Radio in the Classroom* (National Association of Broadcasters, 1939), part 7.

so that the pupils will realize how many areas must be considered. The following guides offered by Helen F. Rachford should be considered.⁹

1. What are the purposes of the program? To inspire, to entertain, to instruct, to amuse, to build good will, to sell the product?
2. Who benefits from the program? Sponsors, the broadcasters, the listeners, others?
3. How well does the program achieve its purpose with you?
4. Are both sides of controversial issues presented fairly?
5. How do you think the program is received by listeners in general?
6. In what way does the program improve welfare of broadcasters, the sponsors, the listeners, our country?

Such a series of questions may serve as a point of departure for the establishment of criteria by the class.

Place of the Commercial Merits in Teaching Procedure. A special concern of the teacher dealing with out-of-school listening is the commercial content of radio broadcasts. Even very young pupils are aware of radio advertising, and discussion of its appeals and methods is permissible in even the early elementary grades. Children who have followed serials and adventure stories know about the prizes, the contests, and the tantalizing claims of the advertiser. The cleverly constructed advertisement constitutes an integral part of almost every program. Inasmuch as children are exposed to these claims as soon as they become interested in radio, they should likewise be enabled to judge commercials and to withstand adverse influences. They must establish standards for advertising material and the methods of presentation. They must learn what advertising is, the reasons for it, and its influence upon radio. Fairly early, children may be made aware of sweeping generalizations, specious claims, and appeals to vanity. Children can profit from critical attention to advertising, and from comparing, discussing, and establishing standards of advertising, just as they discuss actual program content. In upper elementary grades the discussions can delve more intensively into questions of sponsorship and advertising or the influence of commercialism on radio programs. Such study leads to serious consideration of our entire economic system.

⁹ Helen F. Rachford, "Developing Discrimination in Radio Listening," *English Journal*, XXX (June, 1944), pp. 315-17.

Radio and Individual Needs. When the teacher does not assign programs for an entire class, he may still suggest that certain individuals or groups listen to a specific program or a special type of broadcast or series and make a report to other members of the class. Besides serving to broaden the acquaintance of pupils with available material, such a procedure offers splendid opportunities for individual assignments. The perceptive teacher may note the particular interests, the abilities, and the needs or shortcomings of individual students and govern his suggestions for listening and reporting accordingly. His work may be defined as remedial in some instances. Nervous children may be diverted from overstimulating serials and plays to programs of tranquil music. On the other hand, the youngster who is unduly interested in books and reading may be directed to radio broadcasts appealing to his physical and creative requirements. The children may still resent redirection, but in some cases, at least, the teacher will be introducing new listening experiences which will attract and benefit the young radio fan.

The authors do not suggest that the whole school day be built around radio listening, but a teacher may select a particular time each week to be used as a radio period for reports and discussions of out-of-school listening. He should mention pertinent programs incidental to subjects being studied, for any use of an enrichment medium is enhanced when the subject can be integrated with particular areas of study so that the pupils may note relationships and implications. "Education is the sum of our experience; it is also the inspiration for our further achievements."¹⁰ We may hope that experience with radio outside of school hours will lead to better use and understanding of radio and radio aids in schools, and that conversely study and experience inside the classroom will help the child to be more selective and attentive outside.

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¹⁰ Harold W. Kent, "Radio Education for National Defense," *American School Board Journal*, CIII (December, 1941), p. 24.

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Radio Paraphernalia

Section I. EQUIPMENT FOR RADIO EDUCATION

Lack of Equipment a Major Difficulty. One of the major reasons why teachers do not use radio more than they do is that there are not enough radios in the schools. Lack of appropriations for radio equipment means that teachers must depend upon donations from parent-teacher organizations and other groups or upon the interest and generosity of an individual teacher. Lack of proper equipment may require that one or two rooms be used by several classes at different times. A survey conducted by the Radio Council of the Chicago Public Schools in 1944 indicated that in the city of Chicago there were 1191 radio sets in operation, and that a total of 182,110 students in 3981 classes listened to Radio Council Programs.¹ A report made in 1941 by Scerley Reid stated that 45 per cent of the Ohio schools had no radios and that of the one-room schools 83 per cent had none.² The average number of sets per school which had radio was 2.2 per cent in the urban schools and 1.6 per cent in the rural schools. Seventy-seven per cent of the urban schools and 46 per cent of the rural schools had radios. Forty-six per cent of all the elementary schools had radio equipment.

If a principal, convinced of the potential advantages of radio, desires that radio be used in his school successfully, he must make a conscientious effort to provide schoolrooms with superior listening facilities. Good equipment can be an effective stimulus to enthusiasm for radio. The installation of this equipment, however, may often be a gradual process. Those teachers who are most interested in classroom radio should be given preference and be permitted to demonstrate its benefits to other teachers who may be skeptical of the value of radio education.

The Central Sound Control System. Radio equipment in a school can be of two kinds, a central system, with one or more channels

¹ *Journal of the Association for Education by Radio*, III (April-May, 1944), p. 4.

² Scerley Reid, "Radio in the Schools of Ohio," *Educational Research Bulletin*, XXI (May 13, 1942), p. 121.

feeding programs to the whole school, or individual radios in each room. Classroom equipment may be supplemented by recording and "playback" machines and by a public address system. "Central sound system" has many meanings. To some educators it means a simple public address system serving two classrooms. To others it may mean an elaborate sound system such as is found only in the larger city schools. To the writers a centrally controlled system is one which supplies several rooms through wires run from a central receiver. The central receiver is kept tuned to the transmitter from which the educational programs are received and may be switched on and off by a system of remote controls. With this arrangement it is possible for a teacher or group leader in any room in a building to reproduce the broadcast program by simply inserting a loud-speaker plug in a wall socket. Although this type of equipment is usually cheaper to install than more elaborate types and gives more listeners access to radio use, it has not always been successful. For example, the control of such equipment, usually from the principal's office, is not always coordinated. Programs are sometimes tuned in too late or too early, or too weak or too loud. Engaged in the details of his daily routine, the principal may fail to remember to turn the radio on at all. The complications of an elaborate switching system and multi-channelled equipment make it difficult for anyone but an expert to understand the operations.

Generally a complete sound system in a school can do three things. It can distribute programs created within the school—speaking, music, or dramatic skits—either to one room at a time or to all rooms simultaneously, providing they are equipped with loud-speakers. It can also make recordings of radio programs. And it can receive radio programs and redistribute them to the various rooms where they are to be used.³ The use of the public address system by the students themselves has valuable educational possibilities, because it permits actual microphone experience, accompanied by classmate criticism, in voice training, public speaking, and music.

Requirements for Equipping a School for Radio Education. While some schools are supplied with a central system, school administrators now seem to prefer the use of portable radio receivers, for

³ *Central Sound System for Schools* (New York: Committee on Scientific Aids to Learning, 1940), p. 10.

these are less expensive and at the same time more flexible. At least one radio for every two classrooms is desirable. Small instruments are easily moved from room to room and can thus serve the needs of an entire building. Schools of the future will undoubtedly be equipped with one cabinet radio in the auditorium and another in the music room. Small portable radio receivers, portable radio playbacks, and possibly one or two television receivers may eventually be available for individual classrooms.

Recording Equipment an Advantage. The possible and practical uses of recording equipment are almost unlimited. Many teachers prefer to use recorded broadcasts because with them programs can be used when they fit into regular classroom work. Broadcasts which do not come during class meeting time can be recorded and used later.

The actual disc-recording process is technical, the technicality depending upon the type of disc desired. The usual phonograph record is made by recording on wax which is processed so that many copies may be made. This process is moderately expensive and is not used unless many copies of the recording are desired. A more practical recorder is an instantaneous device which may be used to record speech, music, or any other type of audible sound on a "blank" recording disc. The recording can be used as soon as completed, no further processing being required. The records may be used many times and additional copies may be prepared either by re-recording or by using processes similar to those applied to wax recordings.

Three types of recorders of the last variety are available. First, there is a small portable type which can be carried from one room or building to another. This instrument will usually record on six-, eight-, ten-, or twelve-inch discs at seventy-eight revolutions per minute. The records may be played on the recorder or on any standard playback machine. Second, there is a somewhat larger portable recorder which will make a record on sixteen-inch discs if desired, and will record at either seventy-eight or thirty-three and a third revolutions per minute. The advantage of the slower speed of operation is that over twice as much material can be recorded on one blank. The disc which is recorded at thirty-three and a third revolutions per minute, however, cannot be used on standard phonograph equipment. Finally, there is available a recording attachment which can be used with a school sound system or with public address equipment to record any sounds

distributed over the sound system, whether individual or group performance, or any type of disc recording.

The rapid development of wire and tape recording machines is making the recording process a still simpler one. These recorders make it possible to record speech or conversation fairly accurately even when acoustical conditions are not perfect. At present, however, these machines are not successful for recording music in the average school.

Who Should Control Equipment? Requirements of schools are very different from those of the private listener, since school classrooms and halls are much larger than rooms in homes. Moreover, acoustics in classrooms are often poor. Some schools, too, are not equipped for electrically operated sets. In such cases a careful selection of battery sets must be made. The decision as to whether a central sound system or individual receivers should be selected depends upon the school needs, the educational objectives, and the availability of equipment. A central sound system is desirable not only for administrative purposes, but also for the distribution from one room to another of in-school broadcasts. The ideally equipped school will have a central sound system with portable radios as well.

Equipment must be chosen to fit the individual school. For small schools having only a few rooms, the amount of time and labor saved by having intercommunication between the rooms hardly warrants the expense of a central system. A single radio with loud-speakers in the various rooms might be quite adequate. A simple interphone system with provision for plugging in a radio or a portable phonograph may be desirable in a slightly larger school. For a large school radio facilities should be completely separated from communication facilities. Such a school should be equipped with radio receivers or with separate channels in the central system which can be used both for radio and for communication. This will permit communication to take place even when radio programs are in progress.

In any school where program material for broadcasting may originate within the school, provision should be made for pick-up of programs from points other than the principal's office. In this way there will be a greater number of program possibilities. Moreover, the principal should not be required to select and supervise all programs. Most of the responsibility for selection and utilization should rest

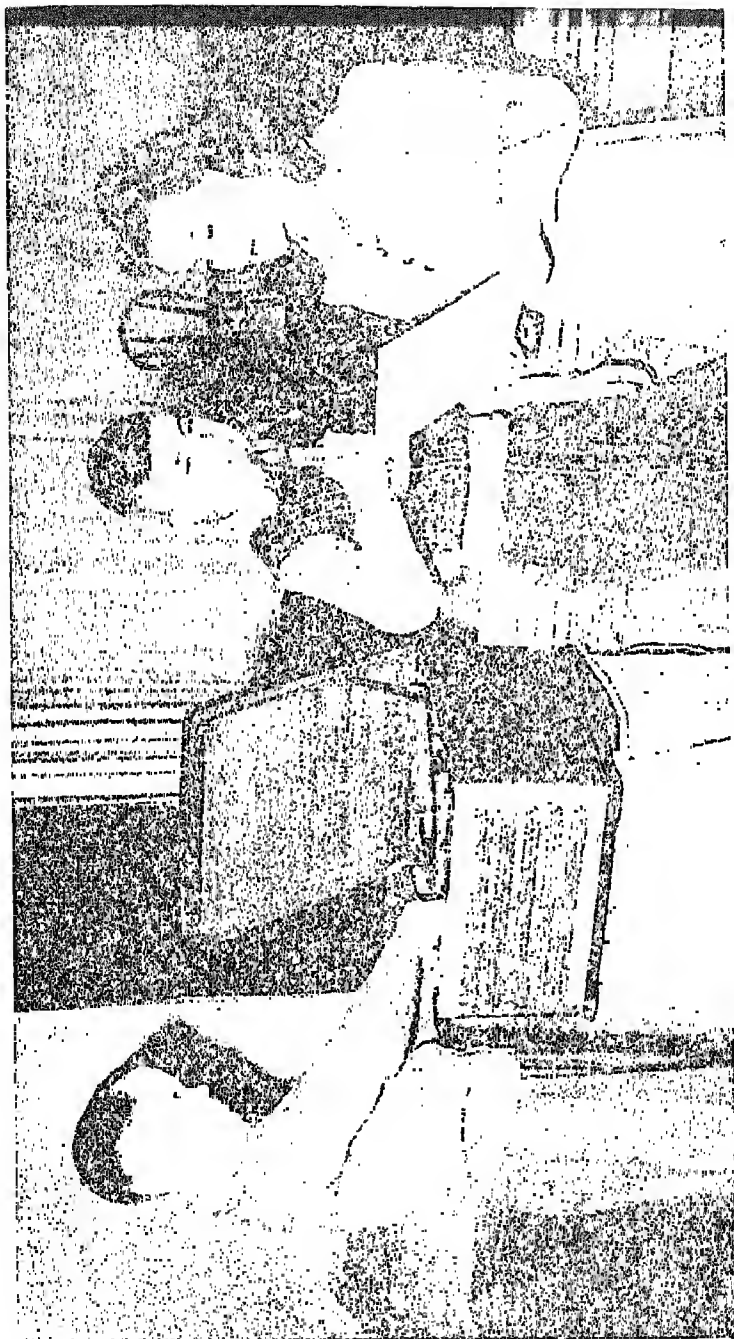
with the teachers. Similarly, the control of the equipment should be one of the duties of the teacher.

Financing School Radio Equipment. It cannot be denied that lack of money has been a serious difficulty in the progress of radio education. As soon as the professors of education, state departments of education, local boards of education, school superintendents and principals, and teachers themselves decide that radio education is worth while, money for equipment and training can be provided by adjustments in the budget. Special appropriations can be obtained for radio education, as has been demonstrated in Ohio and Wisconsin. The writers do not recommend the general practice of raising funds by extracurricular means to equip a school building. Radio education is important enough to deserve its just share of the school budget.

Specific Costs of Equipment. Radio industry is advancing so rapidly in the development of equipment that it is impossible to quote even the average cost of such items as receivers, playbacks, and recordings. The cost of equipment for an entire school depends, of course, on the extent and quality of the installation. The least expensive way to bring radio and recordings into the classroom is to purchase individual sets, if only one to every two or three rooms.

Section II. THE USE OF RECORDS AND TRANSCRIPTIONS

A Clarification of Terms. To solve problems of scheduling, repetition for further study, and constant availability, schools are making increasing use of transcriptions and recordings. Radio programs are recorded by schools and by broadcasting companies, and the records can be used as often as needed by different classes. The terms "recording" and "transcription" are used interchangeably although there is a technical difference in meaning. Transcriptions are made for broadcast purposes only and are available to radio stations only, while records are available to the public. Technically speaking, a transcription record is a sixteen-inch disc which revolves at the rate of thirty-three and a third revolutions per minute. This makes it possible to play back a fifteen-minute program without interruption. On the other hand, the standard phonograph record is made on a recording



*Mock Broadcasting Units Permit the Student to Develop Creative Abilities
Without the Use of Expensive Equipment.*

wax and revolves at the rate of seventy-eight revolutions per minute. The average ten-inch phonograph record can accommodate a maximum of approximately three minutes of recording on one side; as a result it takes several records to accommodate a fifteen-minute radio show.

Seybold⁴ lists the types of electrical transcriptions somewhat as follows:

1. Recordings of radio programs for use in motivating work in the schools.
2. Commercially prepared records pertinent to the school curriculum.
3. Readings made in speech laboratories.
4. Recordings of distinctive individual or committee reports on schools.
5. Classroom activities.
6. Records having unusual appeal for cultural needs, prepared by staff members; lectures by famous visitors to the school.
7. Transcriptions usable for auditorium or lecture purposes.

The possibilities of what may be recorded are limited only by imagination. The values of recordings are as many and as various as the ideas of the teachers who use them.

Advantages of Recordings in Education. In the use of recordings in education, we must consider the disadvantages as well as the advantages. Some programs are not adaptable to the recording method. Current events, for instance, demand the spontaneity of radio broadcasting. While some programs and interviews may be recorded for permanence, most interviews and most speeches need the vitality of radio to create the illusion of reality. In many cases, too, playback equipment and recording machines are still too expensive for schools to purchase. Too much care is often required to maintain such equipment in working condition. Many teachers are not sufficiently trained in the mechanics of recording machines and playback to insure desirable results.

Such possible disadvantages, however, are almost negligible when compared with the advantages of flexibility, availability, repetition, and durability offered to the teacher by recordings. The answer to

⁴ Arthur M. Seybold, "Experiments in Transcriptions," *Nation's Schools*, XXXIII (March, 1944), p. 51.

the complicated problem of scheduling, for instance, is found in the use of recordings. A radio program is valuable only if available when the teacher wishes to use it. The inflexibility of the "live" broadcast often makes this impossible, especially in upper grades where schedules are rather rigid.

Recordings allow broadcasts to be used whenever they are needed. Musical broadcasts, for instance, may come when the class is in the middle of a history lesson; they can be recorded and used again later as desired. Recordings permit repetition of important programs. This repetition permits the study of detail and a more thorough follow-up procedure. Moreover, once a set of transcriptions is made, each school can be furnished with a series of the radio lessons and the discs may be used for several years. Recordings have a special value in presenting the opinions of minority groups which may not have access to radio. Extreme right and extreme left points of view may be helpful in clarifying current issues. Repetition may help the pupils avoid misunderstanding of the discussion and permit a detailed analysis of fact.

Many schools which do not have radios do have phonographs; with recordings they too can share the advantages of broadcasts. Moreover, records may be used to "sell" the idea of auditory aids. While the records are being used in a school, it may be brought to the attention of administrators and teachers that an even greater fund of material may be available through radio. Numerous experiments have been made to test the effectiveness of recordings as compared to live programs. The results of most of these studies indicate that the recording is comparable to a live broadcast in educational value. In fact, for some educational purposes a record may be even more satisfactory.⁵

The record is particularly valuable in affording the teacher an opportunity to pre-audit a program. Too often in using a live broadcast the classroom teacher is unable to secure sufficient advance information regarding a program to be certain of its contents and implications. As a result, he may ignore a broadcast of great potential value and introduce a program which is of little value. A pre-audition will allow the teacher to prepare pupils completely and prevent

⁵ For summaries of experiments see "Recordings for School Use," *Education on the Air*, 1942, pp. 140-51.

failure because of unsuitable maturity level. Pre-audition permits preparation, assimilation, and appreciation by teacher and pupils.

Teachers have found recordings useful in the teaching of voice and music technique. Not only are self-criticism and class appraisal easier but objective means of evaluation are made evident. Children are usually shocked to hear their own voices and to notice their speech or singing habits. As a rule, hearing their own work serves as an effective motivation for careful drill in technique. After some weeks of work voices may be recorded again. The improvement and changes usually present a vivid example of the value of practice. Further attention to correct speaking or singing will almost certainly be achieved.

Recordings permit varied programs of poetry, drama, history, speeches, folk songs, school orchestra and band concerts, and even foreign language instruction. Recordings can be saved, filed, catalogued, and circulated by the librarian.

Organized Efforts to Encourage the Use of Recordings. NBC was the first company to offer transcriptions and also the first to loan portable playback machines and transcriptions to instructors in radio education classes.⁶ The networks and individual companies are increasingly cooperative in assisting educational institutions. The United States Office of Education has an extensive program for distributing transcriptions of a wide variety of programs to school and service groups. Many recording companies are preparing transcriptions for use in schools. Demonstrations and a variety of accompanying aids are being offered to teachers.

Libraries of recordings should become as common as libraries of books. Music record albums are already standard library equipment, but by no means should the records be limited to music. School visual aid departments should become audio-visual or multisensory departments. The librarian may take the responsibility of making a complete list of recordings to be mimeographed and distributed to teachers. He should even supervise the details of collecting sets of desired records.⁷

Techniques of Teaching by Use of Records. Ignorance is a common cause for the failure to use recordings in the classroom. The technique

⁶ Carroll Atkinson, *Radio Programs Intended for Classroom Use* (Meador Publishing Company, 1942), p. 113.

⁷ P. G. Chancellor, "Ears for the School Library," *Library Journal*, LXVII (September 15, 1942), pp. 772-76.

of playing the transcription is much the same as that used to play the ordinary phonograph record. Furthermore, the same principles of education underlie the work regardless of the device used. A teacher who has never used radio or recordings can learn much by observing the techniques of a teacher who is familiar with these media. A definite need exists for in-service training as well as for attention to the college training program.

Supervisors, principals, and teachers can profit by observing demonstration lessons. The demonstration can illustrate the technique of solving language difficulties, of developing a richer background than can be given by texts alone, and of using auditory experience as a basis for discussion and interpretation. As in the case of radio programs, concerted effort must be devoted to making recorded material available to the teachers. They must be informed of the ever increasing amount of material which is offered to them. Many periodicals list the new recordings, but there is a need for a central agency to issue up-to-date catalogues at regular intervals. Someone within the school system should be responsible for acquainting the teachers with the current recordings, as well as older ones, and with ways in which both may be used to enrich the curriculum.

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Part VIII

Radio's Past and Future

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Radio's History

Marconi Constructs the First Radio in 1895. Intensive research is required to trace the origin of ideas which have led to a great invention. An invention owes its conception to the efforts of men who are able to take advantage of the past discoveries of civilization. Marconi was such a man.

Even though he may not have been first to state the original theory of the air waves, Marconi is credited with constructing the first instrument over which a signal could be broadcast for a distance of more than one thousand feet. This was in 1895. The following year he took his invention to England. From a transmitter in Wiltshire he conveyed a message through the ether to his receiver two miles away. By 1901 radio had spanned the Atlantic in transmitting the letter "S" of the Morse Code. It was in 1909 that the first actual sound was broadcast over the air for a distance of three hundred miles. It was in the form of music, transmitted from the Eiffel Tower in Paris. Marconi was not the only experimenter interested in this new instrument. Mention must also be made of other great names, Armstrong, De Forrest, Fessenden, pioneers in the theory of radio electronics.

A Garage Becomes a Broadcasting Station. It was not until 1920, however, that broadcasting had its real beginning. In that year Dr. Frank Conrad set up a seventy-five watt transmitter in his garage and began the operation of Station KDKA, of the Westinghouse Electric Company of Pittsburgh. From this station the results of a presidential election, that of Warren G. Harding in 1920, were first announced over the air. In fact this was the first time that radio had brought to the people in the United States any news of national importance.

In 1921 Westinghouse Electric Company opened a second station, WJZ, in Newark, New Jersey. In its studio, tucked away in the women's cloakroom of the factory, were installed a phonograph, a piano, a chair, a table, and a microphone. In December, 1923, the Radio Corporation of America, having acquired control of Station WJZ, Station WRC (Washington), and Station WGY (Schenectady), initiated the first network broadcasting. While for many years, KDKA was considered the pioneer commercial broadcasting station, WWJ

(Detroit) has recently substantiated its claim to being a few weeks older. WHA (University of Wisconsin) claims precedence as a broadcasting unit, but this is discounted by other contestants, since WHA was an experimental and not a commercial radio station. In any case, radio has been part of our lives little more than a quarter of a century, and it has become an indispensable tool of our civilization, a gigantic industry with countless ramifications, and a powerful medium of communication, entertainment, and education.

People were little concerned with the quality of what they heard over the air between the years 1919 to 1922. Radio was a novelty, so everyone saved his pennies to purchase a set. Ham operators spotted the country; a period of spluttering and puttering and clinking and tinkering followed. Program content seemed unimportant, for the listeners were primarily concerned with clarity of reception and with eliminating static. By 1922 some attempts were made at balanced scheduling and occasional afternoon programs included music, general news, weather forecasts, children's hours, and time signals.

Between the years of 1922 and 1926 radio sets were sold by millions, with the Radio Corporation of America leading in the field. By 1927 there were 694 stations. Newspapers, churches, equipment companies, schools, and private broadcasters were all establishing stations. By 1936 the radio industry was firmly entrenched, its hold on advertising providing powerful competition for movies, magazines, and newspapers. Today radio is an established American folkway.

The Rise of the National Networks. An early trend in the broadcasting industry was the interrelationship between stations. Several small networks were organized, but the National Broadcasting Company was the first of wide scope. Beginning its career in November, 1926, it soon embraced a large group of stations from coast to coast. In order to provide a greater variety of programs and to reach a larger audience, NBC was organized into a twin network, the Red and the Blue, often having two outlets in the same city. Although the NBC has not endeavored to bring radio into the classroom, it has been eager to provide programs of news, music, drama, and science of interest and benefit to young people.¹ Possibly its most distinguished

¹ As we have noted, NBC did present the celebrated music appreciation series directed by Dr. Walter Damrosch from 1928 to 1942. These were broadcast into the classrooms.

recent service to education is its NBC University of the Air, a series of broadcasts bringing cultural enrichment to adult listeners. Besides programs on music, great novels, and other literature, programs have included a significant series on our role as a world power. Among such programs are "Pacific Story," "Our Foreign Policy," and "Tales of the Foreign Service." A series of monthly bulletins, *NBC Presents*, announcing available programs and descriptions are distributed to those who request them. The teacher will find these bulletins invaluable as a guide to out-of-school listening.

The Blue Network, renamed the American Broadcasting Company in 1945, was divorced from the National Broadcasting Company in 1942. Although it still rents NBC broadcasting facilities and is staffed largely by former NBC men, the American Broadcasting Company has grown into a strong, independent network of distinction. It, too, offers a variety of programs of interest to educators, but it does not present any programs specifically designed for classroom use. Of particular merit is America's Town Meeting of the Air.

The Columbia Broadcasting Company was organized in September, 1927. Besides a number of fine educational programs such as "Invitation to Learning," "People's Platform," and "Of Men and Books," CBS makes a significant contribution to the schools with its daily "American School of the Air." This program series was organized under an advisory faculty of prominent educators with Dr. William C. Bagley of Teachers' College, Columbia University, as dean. A teachers' manual has been issued for the series each year.

A new idea in network organization was introduced when the Mutual Broadcasting System was started in October, 1934. Instead of a network owning many stations, several stations cooperated to form a network. The Mutual Broadcasting System's plan originated at Station WOR when an advertiser proposed to put on a show to be broadcast simultaneously in WOR, Newark, and WGN, Chicago, with each station being paid a standard rate but the stations assuming the expense of line charges. The initial broadcast was successful, and soon a small network was formed. There was no need of a special network program department, for each station contributed its own talent and carried its share of the production expense. This cooperative network has grown to have the largest number of affiliated stations. In its early history MBS offered "The Nation's School of the

Air" over WLW, the Crosley Station in Cincinnati. When WLW joined NBC, however, the series was discontinued. Like the "American School of the Air," it was broadcast directly to the classrooms. MBS has not tried to renew this series. MBS programs of value to discriminating listeners are "American Forum of the Air," "The Human Adventure," and "Land of the Lost," the last for children.

A fifth national network, the Associated Broadcasting Company, is now competing for the attention of the American listener. Still in its infancy — it began in 1945 — the network has not developed any new trends in programs of interest to the educator. It remains to be seen what its policies and influence will be.

The Teacher Recognizes a New Tool. Radio found fertile ground for development within the laboratories of the universities. Educators in America and elsewhere became overenthusiastic about the possibilities of radio as a tool of education. On the other hand, false conclusions and ridiculous fears of radio were also expressed. Some maintained that, theoretically at least, radio could revolutionize the process of American education. Statements were carelessly and radically made. Not the least of these was that the teacher would soon be eliminated from the classroom by radio.

Educational broadcasting stations multiplied rapidly during the early years of broadcasting to a peak of well over two hundred. The mortality rate of such ventures was enormous, and the number of stations owned or operated by educational organizations steadily declined. In 1940 there were only about thirty such stations operating. With the decrease in their number came a corresponding decrease in the number of programs specifically designed for public service. The cause of this astounding decrease is subject to much controversy, which has focused public attention on the issues involved. Two principal reasons for the failure of many stations were the excessive operating expense and the poor quality of programs. Often sufficient funds were not allotted for proper maintenance of equipment or for the development of programs and broadcasting techniques. Often, too, initial enthusiasm for this magic instrument of education diminished. There was keen competition as well from commercial interests for broadcasting channels.²

² The history of the educational stations is given by S. E. Frost in *Education's Own Stations* (University of Chicago Press, 1937).

Educators, however, have not entirely lost their hold on radio. In 1945 there were twenty-one noncommercial standard band broadcasting stations operated by educational institutions. The program policies of educational stations now operating vary. Three or four of the stations, notably WHA, at the University of Wisconsin, WOAC, at Oregon State College, and WOSU, at Ohio State University, feature educational broadcasts intended for use in the classroom. State college stations and several others specialize in information for the farmer and his family. All these stations make extensive use of recorded classical music; most of them include no popular music in their schedules. Nine or ten college-owned stations compete for the attention of listeners on an equal basis. The remainder are inadequately financed; they do not have the money to produce a variety of programs and are therefore forced to fill their schedules chiefly with talks or recorded music.

Seven educational institutions have been licensed to operate on high-frequency bands. Two of these stations are owned by the state universities of Illinois and Kentucky; the remaining five are maintained by city school systems in Buffalo, Chicago, Cleveland, New York, and San Francisco. Such city school stations broadcast programs for use in the local classrooms. Most school-owned stations have been operated as a part of the regular community school program for several years.

The development of frequency-modulation broadcasting is expected to produce a marked increase in the number of school-owned stations. Twenty special channels in the megacycle band have been set aside by the Federal Communications Commission for the exclusive use of school- or college-owned stations. These channels will accommodate several hundred FM stations, and dozens of schools and colleges are making plans to enter the field of broadcasting. Additional schools of the air and special programs for children are being presented over local or regional stations, and there is an impressive increase in the number of conferences and institutes devoted to problems of education by radio.

In 1946 the increase in the number of broadcast licenses, both AM and FM, was astounding.³ While only a few of these licenses may be

³ According to *Broadcasting* (Volume XXXI, July 22, 1946), FCC had granted 456 FM outlets since the end of the war. The article also stated that the number

issued to educational institutions, the additional number of licenses granted, particularly to local stations, means a potential increase in the number of programs devoted to educational objectives.⁴

Radio Penetrates the Classroom. Conservatism has long characterized the public school. Parents and teachers are often reluctant to change from established custom. A teacher who, because of liberal convictions, breaks with custom and tradition must run the risk of ostracism. It took an epidemic to show the value of radio to the Chicago Schools. At times of crisis, when schools were closed, lessons were broadcast into the homes, giving the children an opportunity to continue their studies. Such experiences were so successful that they served to enlighten educators on the possibilities of radio as an aid in educational processes.

The first attempt to penetrate the sanctity of classrooms was made by New York City. Broadcast lessons in accounting direct to classroom from the Haaran High School were begun in 1923.⁵ If continuance is a criterion of success these broadcasts were a failure. It was left to Oakland, California, to be the first city to organize broadcasts with sufficient order and quality to insure continuance. In 1924 this city's broadcasts included English, geography, literature, history, arithmetic, and penmanship. In 1926 Cleveland began its magnificent tradition of broadcasting to classrooms which has continued, widely acclaimed, to the present day.

An attempt to develop music appreciation through radio broadcasts was made by Alice Keith. To augment the programs a manual of preparation was compiled and distributed to teachers. Even before the Cleveland experiments, Ben Darrow began the "Little Red School

would be 509 within a short time. In *Broadcasting* (Volume XXXI, July 15, 1946), we note that the FCC had granted 213 new AM licenses from January 1 to July 10, 1946. This rapid growth in the number of radio stations is unprecedented; it means that the role of radio in our lives will become even more significant.

⁴ An excellent discussion of the educational possibilities of school-owned FM stations, with information on costs of construction and operation, and suggestions for economical programing, is given in a pamphlet published under the title *FM for Education*, available on request from the United States Office of Education, Washington 25, D.C. See 1947 edition.

⁵ For an account of these early years of broadcasting, see Ben H. Darrow, *Radio, the Assistant Teacher* (R. G. Adams and Company, 1932), pp. 17-60, or Mr. Darrow's chapter, "Classroom Radio — Its Origin, Present Status, and Probable Future," *Radio and English Teaching* (D. Appleton-Century Co., 1941). Also valuable in a study of the history of educational broadcasting is Carroll Atkinson, *Development of Radio Education Policies in American Public School Systems* (Edinboro Educational Press, 1939).

House" series over WLS in Chicago. He provided its schools with lesson materials in advance. In this same city, by 1926, Judith Waller supervised the broadcasting of two features each day of the school week. The schedule included lessons in geography, science, music appreciation, literature, stories, history, and current events. In 1929 her work was expanded and endorsed by the Chicago Public Schools. Also, we should not forget that during the same year, 1926, the Atlanta, Georgia, schools were presented with seventy radio sets and immediately arranged a weekly radio period for several subjects.

Before 1927 at least four broadcasting stations were scheduling programs for classroom use: WLS in Chicago, beginning in 1924; KSAC, the college-owned station of Kansas State College, beginning in 1925; and WSB in Atlanta and WMAQ in Chicago, both beginning in 1926. In 1926 the State Department of Education of Connecticut began to broadcast a series of programs in music appreciation. Following this precedent came the musical programs offered by the Standard Oil Company of California in 1927. Ohio State University inaugurated the Ohio School of the Air in 1928, and in 1930 a similar series went on the air from Station WHA at the University of Wisconsin.

Nation-wide broadcasts to the classroom had been inaugurated by the Damrosch Music Appreciation Series in 1928. It was in 1930, however, that CBS began the celebrated American School of the Air, which introduced a variety of curriculum areas into the school. Although CBS offered its facilities free of charge, no group of educators could be found to administer the series. For a time, a manufacturer of radio equipment sponsored the broadcast. Now the programs are prepared and presented by CBS with the cooperation of a wide variety of prominent educators and agencies.

At the present, programs intended for use in the classroom are broadcast by city school systems in many cities: Akron and Cleveland, Ohio; Alameda, Los Angeles, and San Francisco, California; Buffalo, New York City, and Rochester, New York; Chicago; Detroit; Indianapolis; Philadelphia; and Kansas City, Kansas. A limited school service is provided by Stations WSB in Atlanta and WLW in Cincinnati; more extensive schedules are broadcast by the schools of the air mentioned above as well as by more recent organizations, including the Texas School of the Air, the Oregon School of the Air,

and individual cities such as Chicago, Portland, Oregon, and San Francisco. The American School of the Air series continues to be widely used in classrooms throughout the country.

Advisory Committees Organized to Promote Radio Education. The first organized effort at radio education was developed under the chairmanship of Ray Lyman Wilbur, then Secretary of the Department of the Interior, who called a group of educational leaders together in Washington in May, 1929. "We now face the question of what we shall do with radio in connection with public education," he said. "That includes not only schoolroom teaching but adult education, and what we shall do with the latter in developing a better citizenship."⁶ At this time commercial broadcasting promised to become a national business and radio advertising was getting a lion's share of radio time. Secretary Wilbur continuously warned broadcasters that radio was an educational medium. This meeting led to investigation of the broadcasting industry and educators' problems, and, in 1930, to the organization of the National Committee on Education by Radio. The Committee was extremely active for eleven years, and it achieved its purpose of protecting the rights of the educational broadcaster by fostering and coordinating experimental programs, by conducting research, by offering a Service Bureau to aid educational stations in securing and retaining licenses, and by distributing information through its weekly bulletin, *Education by Radio*. The National Committee on Education by Radio held a final meeting in December, 1941. The Committee believed that it had met its obligations. While many problems were still unsolved, qualified individuals and organizations had sprung up to take over its responsibilities to educational broadcasting.⁷

The year 1930 saw the formation of another agency organized to promote higher standards of broadcasting, the National Advisory Council for Radio in Education. The Council engaged in research, issued an informational series of books and pamphlets to aid broadcasters, and presented a series of educational programs over NBC which set the pattern for many of our finest broadcasts. Its most

⁶ Frank Ernest Hill, *Tune in for Education; Eleven Years of Education by Radio* (National Committee on Education by Radio, 1942), p. 3.

⁷ For a complete history of this organization, see Frank Ernest Hill, *Tune in for Education; Eleven Years of Education by Radio* (National Committee on Education by Radio, 1942).

famous series, broadcast during 1935-36, was entitled, "You and Your Government." The Council also published a report of the proceedings of its annual meetings in a series of volumes, *Radio and Education*. In 1935, NACRE, as the Council is called, met with the Institute for Education by Radio. Records of the joint conference were combined in *Education on the Air*, and *Radio and Education*. In 1938 the work of the Council was terminated as the result of insufficient financial support. Similarly, the University Broadcasting Council, which sought to combine the work of the University of Chicago, Northwestern University, and De Paul University with the facilities of allied networks and independent stations, functioned effectively for several years. Withdrawal of financial support was also a factor in the disbanding of this Council.

The United States Office of Education. By 1930, the United States Office of Education had become active in radio education and has since cooperated effectively with both commercial and educational groups. This office has issued valuable material. It has kept the educational interests of the nation informed about developments in broadcasting; it has attempted to correlate their efforts; it has offered advice on programs; and it has supplied typical scripts and recordings for educational and service groups. The office has also cooperated in the production of many splendid radio series. The most distinguished example perhaps was "The World Is Yours," presented in conjunction with the Smithsonian Institution.

Closely associated with the United States Office of Education is the Federal Radio Education Committee of the Federal Communications Commission. Forty representatives of the broadcasting industry, institutions of higher learning, associations of educators, educational radio stations, civic, labor, and religious groups, and government agencies comprise the personnel of this Committee. It was created in 1935 by the Federal Communications Commission to eliminate controversy and misunderstandings between groups of educators and between industry and educators, to promote actual cooperative arrangements between educators and broadcasters on national, regional, and local bases, and to unify their aims and methods. Of particular value to the classroom teacher are its monthly publications, the *FREC Service Bulletin* and *Radio Programs for Student Listening*. Other publications the teacher might find helpful

are its *Criteria for Children's Radio Programs, Handbook for Listeners, How to Judge a School Broadcast, How to Build a Radio Audience*, and the *Radio Bibliography*.

The FREC sponsored the "Evaluation of School Broadcasts," started in 1937 and terminated in 1942. This research program, undertaken by a staff of experts, was conducted at Ohio State University. The group analyzed the role and importance of radio to schools and examined the social and psychological effect of radio listening upon children. The "Evaluation of School Broadcasts" were a significant contribution to education by radio. Among the titles are *Radio in Informal Education, Auditory Aids in the Teaching of Science, Adolescent Personality*, and *Radio: Some Exploratory Studies*.

The United States Office of Education's Educational Radio Script Exchange is performing a magnificent service. The exchange was organized to serve as a clearinghouse for radio scripts and production suggestions. Here all educational organizations from various parts of the country may exchange materials and experiences. Many local educational organizations do not have adequate facilities or personnel to create programs of high standard. With the aid of this exchange, they have at their disposal scripts which will justify the cooperation of local stations. Moreover, the scripts, as well as recordings, may provide stimulating experiences for children for in-school productions. By 1939 more than twelve hundred scripts were available.

Radio Councils Formed to Serve Regional Interests. The Rocky Mountain Radio Council is a regional venture which was begun in January, 1938. It operates in Colorado and Wyoming with twenty-nine educational and service groups, including colleges, parent-teachers associations, farm organizations, women's clubs, and social service agencies. Of the nineteen stations which participate, nine are local and five of these have a complete daytime monopoly of the air.

The purposes and advantages of this regional Council include the production of programs which will satisfy the interests and needs of local organizations in order to augment regional curricula. It assists institutions and agencies to select broadcast material and talent, to prepare programs for presentation, to organize supplementary classroom materials, and to supply recording equipment for transcriptions. During the period from August 1, 1940, to July 31, 1941, over

nineteen hundred broadcasts were given by the nineteen stations.⁸ In the first year of its series, as a result of the work of the Council, there was an increase of 368 per cent in the number of broadcasts by educational organizations.

One year before the formation of the Rocky Mountain Radio Council, the Texas State Network started regional broadcasts. There was considerable agitation to establish a council or a school of the air to serve educational interests.⁹ No state funds were at first available. However, an endowment was given for a Texas School of the Air and the interest and cooperation of many organizations resulted in the planning and functioning of this experiment. Although Texas had had some broadcasts to schools between 1937 and 1940, the Texas School of the Air began as an organization in February, 1940. Organizations which cooperate in producing the Texas School of the Air are the State Department of Education, the Texas Congress of Parents and Teachers, the University of Texas, the North Texas State Teachers College, the Texas State College for Women, the Agricultural and Mechanical College of Texas, the Texas State Teachers Association, the Texas Association for Childhood Education, the Junior Leagues of Texas, the Texas Quality Network, and various stations.

Various local organizations, school systems, states, and municipalities are giving splendid local service to their own schools and teachers. Examples are the Chicago Radio Council, the Detroit Board of Education, Indianapolis, Cleveland, Baltimore, Rochester, San Francisco, Philadelphia, New York City, and the states of California, Wisconsin, Minnesota, Michigan, Oregon, and others.¹⁰

Avenues of Information for the Teacher. The educator interested in using radio may secure aid from many sources, for several organizations are concerned with the effective use of radio in education. The National Association of Broadcasters has not merely established standards for the work of its members but has also issued service bulletins of interest to educators. Among them are *The ABC of Radio*, *Radio and Public Service*, and *How to Use Radio*.

⁸ For a description of the service of the council, see Carroll Atkinson, *Radio Programs Intended for Classroom Use* (Meador Publishing Co., 1942), pp. 97-106.

⁹ *Ibid.*, p. 104.

¹⁰ The authors have not attempted to compile a complete list of the service organizations. The pattern is ever changing and an increasing number of schools, cities, and states are actively participating in radio education.

The Association for Education by Radio, which was organized in 1941, is specifically devoted to the advancement of education by radio. In order to foster better understanding of the role of radio in the schools, the association publishes a monthly periodical, *Journal of the AER*, which provides an invaluable service to teachers who wish to be informed of current radio programs, policies, problems, and the exchange of ideas.

The teacher may look to other publications for information. Many educational periodicals devote space to radio and recordings, either regularly or at intervals when some noteworthy change or contribution is made. Publications worthy of special notice are the *News Letter*, issued by Ohio State University; the Federal Radio Education Committee's monthly bulletin, *Radio Programs for Student Listening*, and its *Source Bulletin*; the periodicals *See and Hear*, *Radio Guide*, and *FM and Television*; and magazines directed to professional radio personnel, such as *Broadcasting*, *Radio Daily*, and *Radio Mirror*. The teacher may send to the broadcasting companies themselves or to local councils for information.

Each year more radio institutes and conferences are organized throughout different areas of the country. These conferences may serve to clarify the thinking of educators and broadcasters about radio, to help them define purposes, to establish standards, and to inaugurate programs. Moreover, such meetings may serve as stimuli to teacher training. In fact, many conferences provide specific demonstrations to aid both broadcaster and teacher. Among annual conferences of interest to the educator are the Institute of Education by Radio, held in Columbus, Ohio; the School Broadcast Conference, held in Chicago; and the meetings of the National Association of Educational Broadcasters. Institutes and conferences have been held at Stanford University, Kansas City, Missouri, Salt Lake City, and New York City. In fact, in almost every part of the country teachers have assembled to learn more about radio's role in education. Organized educational effort has not only preserved radio as an instrument of education but it is continuing to enhance its use for higher realms of effectiveness.

Regulation of Radio. Although there was some early regulation of broadcasting, conditions were chaotic, and there was a need for specific legislation regarding allocation and the use of the air waves.

The Radio Act of 1927 provided that the government should control the assignment of channels for broadcasting and grant licenses for specific periods. It was specifically stated that the broadcaster had obligations to the public as well as privileges. The phrase "public convenience, interest, or necessity," an axiom of broadcasting, was first mentioned in this legislation. The Federal Radio Commission was appointed to check the growth and power of radio stations. Not only did the number of broadcasting stations decrease rather sharply, but there came a change in the character of the industry. There was a rapid growth of networks; small independent stations became fewer and fewer. Moreover, a great market for advertising was being created. Radio sets and equipment were no longer the center of interest, for it was soon discovered that programs could help to sell any number of sets to an ever-increasing audience.

The Radio Act of 1927 was replaced by the Communications Act of July, 1934. At this time the Federal Communications Commission was established, its seven members to be appointed by the President of the United States and approved by the Senate. Each commissioner serves seven years. The Commission's activities are directed to all forms of communication, including radio, the telephone, cable and telegraph combines, and police, aviation, maritime, and international short wave operations. The regulatory powers of the Commission are primarily limited to the field of engineering. It allocates the frequencies upon which a station may function and determines whether the channel of that system shall have clear, regional, or local service.

The Commission has no power of direct censorship over programs, but it can censor indirectly by refusing the renewal of a license to a broadcasting station which has presented programs considered undesirable. Because there is no clearcut definition of the magic phrase, "public interest, convenience, or necessity," there is always room for argument about the functioning of a station. While this type of indirect censorship may prevent such things as indecent language, it serves to give indefinite tenure to station managers who do not offend the FCC. The FCC can control broadcasting by denying a license, by refusing to renew a license, or by refusing applications for improved facilities, such as better wave lengths, additional power, and longer operating hours. With the repeated need for license renewal, station owners and managers are kept on the alert.

The Federal Communications Commission can encourage and protect the system of education by use of radio. For instance, it has described the type of program which will almost certainly evoke displeasure, thereby inviting disciplinary action from the Commission. Undesirable types of radio programs are those which advocate astrology or other fake sciences; those which promote lotteries, solicit funds, present fraudulent or misleading advertising; include defamatory statements; fail to allow equal opportunity to discuss all sides of controversial issues; include obscene, indecent, or profane language; offend religious or racial groups; stimulate listeners excessively; interrupt concerts or music for advertising announcements; and use phonograph records or electrical transcriptions without identifying them as such.

In the past there have been charges from time to time that the Commission has been influenced by astute politicians.¹¹ The most serious charge is that representatives of large broadcasting companies appear before the committee and obtain a grant with celerity, whereas representatives of small companies can get no action without the expense of a long hearing or investigation. That the FCC is becoming more strict in its issuing and renewing of licenses and more exacting in its examination of broadcasting practice may be confirmed by reading the FCC report, *Public Service Responsibility of Broadcast Licensees*.¹²

The FCC announces that in issuing and renewing licenses it will give special attention to four program services relevant to public interests. "These are: (1) the carrying of sustaining programs, including network sustaining programs, with particular reference to the retention of licenses of a proper discretion, and responsibility for maintaining a well-balanced program structure; (2) the carrying of local live programs; (3) the carrying of programs devoted to the discussion of public issues; and (4) the elimination of advertising excesses."¹³

We may also note that the caliber and content of individual radio programs or series must depend upon controls other than those designated by the FCC. State regulations, especially in the field of advertising, the code of the National Association of Broadcasters, and the standards for programs established by networks and stations them-

¹¹ See Thomas P. Robinson, *Radio Networks and the Federal Government* (Columbia University Press, 1943).

¹² Issued by the Federal Communications Commission, March 7, 1946.

¹³ *Ibid.*, p. 55.

elves are governing factors. In the long run, of course, public opinion and audience reaction are perhaps the most effective determinants in broadcasting policies, for radio will ever seek the favor of the people.

Radio in America Belongs to the People. In this era of living, when by the use of controlled radio whole nations can be conquered almost overnight, it takes little effort to realize that unless it is properly directed radio can be an instrument for destruction as well as achievement. Radio is a power to govern attitudes, emotions, and thought, and to amass vast supplies of wealth.

As in the case of other media of public ownership where so many have access to its use and privileges, danger lies in too much federal regulation and in too little federal protection. There is no magic ingredient which will insure radio its rightful place in our lives or will allow for the maximum of public benefit and the minimum of public jeopardy. The secret lies, perhaps, in finding the balance: enough control so that chaos may be avoided and smooth relationships may be retained between the many who seek to use this medium, and yet enough freedom to allow for experimentation and creative endeavor in programing. As we venture into international broadcasting, so far known to most of us only by news round-ups and occasional program exchanges, these problems of privilege and control will become even more acute.

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Radio's Controversy

RADIO EDUCATION is so comprehensive a term that it has met with almost universal approval. The controversy regarding radio education is, for the most part, centered around the objectives of education by radio. Educators have often formulated one set of educational objectives, while commercial broadcasters have accepted entirely different objectives. The formulation of objectives for radio education is all the more complicated since professional organizations have had within themselves subgroups which have been critical of opponents and skeptical of each other. Fortunately, discoveries and developments have solved many of the apparent controversies and entanglements that long characterized the radio industry.

In the following pages the main issues of the radio education controversy will be discussed in terms of questions related to the objectives of education by radio:

1. Should radio be used for the purpose of entertaining or educating the people?
2. Can objectives of radio education be more completely realized when the broadcasting is done by a "Master Teacher" or when it is done by professionally trained radio personnel?
3. Does commercialism interfere with the realization of objectives?
4. Will an improvement in control of educational radio programs promote a greater fulfillment of educational objectives?
5. Can educational objectives be most effectively achieved if the broadcast comes from a national, or regional, or local network?

Is Radio Primarily Education or Entertainment? Men and women interested in radio do not argue so much over the question of whether or not radio should be used as a medium of education as they do about particular emphases. Should entertainment be the paramount objective and educational features incidental, or should education itself be the major objective?

Those who argue on the side of entertainment state authoritatively that radio was born as a medium for pleasing and amusing listeners. They declare that when radio has made the nation more joyous, or

when it has provided pleasant experiences, its main purposes have been accomplished. If radio educates at all, it must educate primarily through entertainment; any instruction provided must be in the nature of a by-product. It must be admitted that the majority of people do prefer to be entertained rather than to be educated by any medium; unfortunately, those who prefer radio entertainment are those most in need of education. The studies of Lazarsfeld indicate that as one descends the economic scale there is more listening to the radio, but that the listening is less and less discriminating. The widespread enthusiasm for soap operas, swing bands, and brief news summaries, as opposed to detailed, analytical newscasts or commentaries, arises from the demand of the lower economic groups.

Those who believe that the first objective of radio is to educate argue that radio itself can cultivate the desires of its public. If the listeners demand entertainment, it is because radio has fostered this demand. Being an instrument of wide social communication, radio finds its way into more than 90 per cent of American homes. It will not be tolerated unless it brings the audience what it wishes to hear. Educators who hope to use radio to foster higher ideals and standards of living recognize that radio can bring instruction and information to its listeners and can constructively influence ways of thinking and doing. Taking an extreme view, perhaps, some educators consider a radio program a total loss unless it is designed to instruct its listeners.

A third group of people interested in radio and education compromise the two points of view. Eclectic thinking is essential in weighing these arguments; and a compromise between them requires a critical examination of program purpose, content, and production as well as a willingness to experiment. Radio can be both entertaining and educational; neither object is antithetical to the other. Educational values can be derived from a program designed to entertain, and so-called educational programs should certainly be entertaining. If it is granted that entertainment signifies interest, then entertainment is essential if radio education is to be effective. Dr. James Rowland Angell, a guiding spirit of radio in education, offers a definition of an educational program which merits consideration here: "Any program may be regarded as educational in purpose which attempts to increase knowledge, to stimulate thinking, to teach

technique and method, to cultivate discernment, appreciation, and taste, to enrich character by sensitizing emotion and by inspiring socialized ideals that may issue in constructive conduct. Education is essentially the progress by which individuals come to adjust themselves intelligently to life."¹

As a tool of instruction, radio can stimulate new interests. It can multiply pupil experiences, even though these experiences must generally be of a vicarious nature. The classroom teacher is rapidly becoming aware that his objectives are more easily realized by the use of multisensory aids. Allied visual aids consist of textbooks, pictures, maps, and motion pictures. Radio adds emotional appeal to the sense of hearing. Television will soon revolutionize audio-visual devices. Thus teachers will have a new and unpredictable combination of learning tools at their disposal. It remains to be seen just how well teachers and parents can take advantage of these new aids.

The Question of the Master Teacher. The master teacher plan provides for an expert teacher to broadcast a lesson or series of lessons to the classroom. Theoretically, the radio lesson prepared by the expert is better than the lesson taught by the average classroom teacher. The expert radio teacher defines the subject matter with care, and his lesson is pretested in a control classroom. Any necessary revisions have been made. All irrelevant and nonessential material has been eliminated. The ideal master teacher has had long experience in teaching; he understands children and their language, and he is well trained in educational theory and classroom method. He is, moreover, an expert in his subject. For instance, in spite of the disadvantage of not being in personal contact with the children, the master teacher can, because of superior musical ability and training, provide better instruction in music over the radio than the average classroom teacher. No teacher can be an expert in every subject; therefore the classroom instructor profits from the occasional assistance of the master teacher. Moreover, by listening to the master teacher, the classroom teacher saves valuable time otherwise needed for making special preparations and in observing demonstration lessons by an expert or supervisor. So the theory has been explained.

No master teacher can altogether take the place of the classroom instructor. There is no substitute for personal contact between

¹ Judith C. Waller, *Radio, the Fifth Estate* (Houghton Mifflin Company, 1946), p. 171.

teacher and pupil. The master teacher certainly has a place in radio education, but the classroom teacher can never sit back complacently and hope that pupils will learn everything as the result of the direction of an absent master teacher. The classroom teacher retains the responsibility for the use and reinforcement of ideas and information presented. As a matter of fact, he must strive to become a master teacher himself. Perhaps radio can aid him.

Another point must be considered. Exclusive reliance upon a master teacher may reinforce the traditional practice of isolating the subject areas of music, geography, grammar, history, and so forth. In fact, subjects are likely to become even more isolated. Each topic is given overemphasis because an enthusiastic subject expert is teaching it. The atmosphere of the master teacher instruction may be unnatural, just as prepared demonstrations are unnatural. Pupils participating in the studio are usually coached in their questions and answers. These few receive attention out of proportion to that received by their schoolmates.

Historically speaking, radio master teachers were chosen either to teach an entire course or to teach occasional lessons in cooperation with other teachers. They were expected to serve without increase in pay and to do the work in addition to their regular school routine. When they used their own classes for demonstrations, they often found it difficult to obtain the necessary time for rehearsal. Administrators were reluctant to provide transportation for pupils to and from studios. Considering these handicaps, master teachers have done an excellent job with radio lessons.

If the master teacher is not to do the broadcasting of programs designed for educational purposes, then who should broadcast them? Should all educational programs be broadcast by educators, master teachers in this instance, or should the broadcasting be done only by professional radio personnel? The writers believe that not even the most qualified educators can approach the task of production as well as professional radio people. The acting, the speaking, the sound effects, all can be done most effectively by those who are trained in such skills. Of course, there are some who may qualify both as educators and as professional radio artists. Educators should control both the content and the purpose of the program. Facts must be checked, words must be carefully selected, sentence structure must

be analyzed, dramatic effect must be scrutinized. All this is the responsibility of a well-trained teacher.²

Commercialism and Radio Education. The most frequent complaint against commercialism is that the federal licensing procedure allows powerful business interests to control most of the kilocycles, kilowatts, and hours.³ Noncommercial stations, it has been said, are either crowded off the air or granted undesirable frequencies. Educational institutions have been forced to relinquish their broadcasting stations. It must be admitted, however, that the large decline in the number of stations owned by educational institutions is not entirely the result of unfair handling by commercial networks; the failure of many educational stations has come from the inability of administrators and teachers to provide programs interesting to the public.

An examination of early programs presented by educational institutions indicates that the broadcasts were for the most part given in the form of lectures. Features designed for entertainment were produced by the college groups, such as the band, the glee club, or the drama class. These entertainment programs were prepared for college audiences and were primarily for the benefit of the performers themselves. None of the participants were paid for their rehearsal or performance. As long as the lecturers or the students enjoyed broadcasting, they were willing to devote the necessary time to it, but as soon as the novelty was gone interest lagged and the quality of the programs deteriorated.

Early programs broadcast over educational stations lacked showmanship. The professional radio artist, on the other hand, completely disregarded educational principles. Few children's programs, for instance, were considered desirable by educators and others interested in child welfare. Showmen not only lacked knowledge of what was

² Stations WHIA (Madison, Wisconsin), WBEZ (Chicago, Illinois), WHAM (Rochester, New York), KBPS (Portland, Oregon), WBAA (Indianapolis, Indiana), and WFIL (Philadelphia, Pennsylvania) present programs for use in the schools, and they may be cited as typical examples of the cooperative work between professional educators and professional radio personnel in the matter of planning and producing the series.

³ An excellent description of the Federal licensing system may be found in the following volumes: S. E. Frost, *Education's Own Stations* (University of Chicago Press, 1937). Thomas P. Robinson, *Radio's Networks and the Federal Government*, (Columbia University Press, 1943). Carroll Atkinson, *Education by Radio in American Schools* (George Peabody School for Teachers, 1938).

educationally valuable and psychologically sound but also lacked understanding of children's needs. They did know how to capture a child's intense interest, however.

Educators have demonstrated clearly that unaided they cannot produce satisfactory radio broadcasts for a wide audience. It has also been demonstrated that professional radio people alone rarely produce sound educational programs. What is the remedy? In the first place, there is a growing need for radio training for teachers. This need is rapidly being met by an increased number of radio workshops and college courses in radio for teachers. As a result, teachers should be better equipped to offer counsel to radio producers or to use radio in their classrooms. Moreover, educators must cooperate with professional radio producers. They must appreciate the special problems of broadcasting, and they must understand the business interests of the radio industry.

The managers of commercial networks and privately operated stations are eager to produce entertaining and stimulating educational programs, but they need help from the educator in selecting appropriate subject areas, in grading vocabulary, and in predicting the psychological effects of their programs. Having assisted with planning, the educator should step aside and leave the production to radio professionals.

Leading educators and administrators have never regarded the operation of radio stations as one of their major responsibilities. Most criticism of institutionally owned and operated stations is probably justified. Improvements can be made in a number of ways. For instance, the station should not be run by a single department, be it physics, speech, or political science; instead, all departments should share responsibility of the privilege. The program director must have a thorough knowledge of radio's capacities and limitations and must be constantly available to assist the teacher in developing radio material. Competition from commercial stations should be welcomed as a challenge. Enough money should be provided to obtain talent, to maintain competent administrative personnel, and to analyze public reaction to programs.

Commercial Stations Have Neglected Rural Areas. A serious charge against the commercial control of radio is that the rural districts of our nation are underprivileged in respect to radio facilities. The voice

of the broadcaster is directed to the thickly populated centers at the expense of rural areas. Advertisers demand a large urban audience. It is imperative that station and network managers respond to this demand in order to receive the necessary revenue. Rural audiences may be handicapped because of frequent inability to afford radio sets or lack of rural electrification. These conditions would be definite handicaps to teachers in rural districts.

The Question of Schedules. In order to approximate more closely the demands of "public interest, convenience, and necessity," national networks have defined their programs as commercial and sustaining. Commercial programs are paid for by a commercial sponsor. Sustaining programs are produced and financed by broadcasting companies or service organizations. Most programs designed for educational objectives are sustaining features. The hours allowed educational sustaining programs are often arbitrarily shifted so that commercial programs can have the choicest times and reach the largest audiences. Sustaining programs are moved to less desirable hours, and in some cases a sustaining feature is cut off the air to accommodate a sponsored show. Even when the network offers an educational feature at a desirable time, the local station manager may refuse the program or may rebroadcast it later in order to accommodate a local advertiser.

Commercial Programs in Schools. Legally or ethically it is the practice in American school systems to introduce into the classroom no textbook sponsored by an advertiser or any which includes advertisements. We need not look far, however, to find schoolrooms in which there are toy stores displaying on their shelves tiny samples and boxes advertising many nationally known products. Perhaps, too, we might find on the library table commercial pamphlets or pictures. On the shelves of the visual aids storeroom we may find samples of the products and raw materials of industry distributed to schools for the purpose of advertising. In some schools we may find free film strips, slides, maps, or sound pictures offered in order to promote goodwill toward certain industries.

Radio educators have refused many fine programs because they are sponsored by commercial organizations. In the case of one program, however, the "Standard School Broadcast," enthusiastic appreciation has been won from teachers. For many years schools along

the West Coast have used this Standard Oil of California program to great advantage.

Through the efforts of the Federal Communications Commission, the National Association of Broadcasters, and network companies themselves, the general quality of commercial advertising has been regulated and improved. This is especially true in the matter of false advertising. Where fraudulent advertising is included in a broadcast the whole program is contaminated and is a threat to the public interest. The FCC takes action against advertisers who have used radio to mislead listeners. Nevertheless, teachers have a definite responsibility to teach a sense of program discrimination. In the words of Harold L. Ickes, "This same privilege of 'tuning out' is shared by all, and I trust that eventually its exercise will have the effect of overcoming the ebullience of the advertiser, whose legitimate rights no one will dispute. I believe that in the course of time, under the pressure of public opinion, the uses to which radio may be put will strike a reasonable and satisfactory balance."⁴ If a program has sufficient educational advantages to insure effective pupil education, a teacher should probably not hesitate to use it regardless of whether or not it is sponsored. One objective of the school should be to teach the child to recognize different kinds of propaganda.

Improved Control of Radio. Some educators have suggested that a change in control of radio would improve our radio educational programs. It has been recommended, for instance, that one third of all radio stations of our nation be owned, operated, and controlled by educational institutions, that one third be allotted to the national and state governments, and that one third remain under the operation of commercial interests. A more detailed proposal recommends that the FCC should reserve at least two hours daily, one hour in the daytime and one in the evening, for educational purposes. A committee of teachers who are experienced in the educational and cultural aspects of radio would create and produce programs without station censorship. This committee would employ the best talent to participate on such educational programs. The plan would free educational programs from commercial talent and would encourage the cooperation of schools. Schedules would be published and distributed to

⁴ Harold L. Ickes, "Readin', Ritin', and Radio," *Educational Broadcasting* (University of Chicago Press, 1936), p. 7.

schools. Cancellation of time originally scheduled for these programs would be prohibited. Teachers could broadcast without fear that the hours of broadcast would be changed. An educational training department could be maintained within the bureau to record programs of permanent value and to distribute recordings to smaller and more remote stations.

Under the present system of commercially owned and operated stations, an organized effort should be made by educators to secure through federal legislation the rights to local or regional broadcasting. Sufficient appropriations must be provided by legislatures to enable the states to build, equip, and manage educational broadcasting stations at key points in each region.

Sources of Educational Broadcasts. The first radio education programs were broadcast from stations operated by universities. It was not long, however, before commercial interests recognized the opportunities of radio. Local, institutionally operated stations soon found it impossible to compete financially with commercial stations. Their programs could not compete in quality with those commercially produced. It was only through action of the FCC that the educational aspects of radio were saved. The commission required that radio stations, if they were to renew their licenses to operate, must produce some programs for public interest and convenience. As a result the national networks did produce educational programs. But the production of these broadcasts has given occasion to a difference of opinion on the advantages and dangers of control by federal, state, or county authorities of educational instruction.

The Constitution has protected the locality's right to educate its own people. Historically communities have fought for this privilege. School boards who control local school policy are still, theoretically at least, representatives of the people. The attempts of federal agencies to modify this privilege have been regarded with suspicion and distrust.

In 1935, the National Committee on Education by Radio recommended the establishment of a public radio broadcasting system to supplement the present private system. The main features of this recommendation were that the people of the United States should establish a system making noncommercial programs available to American listeners, programs which could offer entertainment and

information to promote the public welfare. It was recommended that the management and administration of program policies should be vested in national, regional, and state boards. The members of these nonpolitical boards were to be selected from active leaders in public welfare, agriculture, labor, religion, science, or other civic enterprises. The organization should be run on a nonprofit basis and open to public forums, adult education, classroom programs, and the like. The expense should be met by funds provided by federal taxes.⁵

Those who opposed this system of federal radio education suggested that it would be a step in the direction of regimentation, that the result would be a standardized product. It is still argued that the real purpose of government-controlled radio, such as that in Great Britain, Canada, and Mexico, is to centralize and nationalize education. In such a system there is a constant danger that men in office may misuse their power to perpetuate policies and personnel.

The plan most often recommended to counteract the dangers of federal control is the development of a system of regional broadcasting. Just what should constitute a region has not been clearly defined, but the power of station transmitters should be the determining factor. Air waves respect no state, county, or city boundary. Administrative policy must determine whether such educational organizations shall revolve around a single station or all facilities available within a certain area, including both noncommercial and commercial stations. Consideration must be given to the potentiality of standardization and control in the case of a regional as well as in the case of a national organization. A network with facilities available only to a select list of colleges and universities would give these institutions an unfair advantage. Under present plans for organization, a region is recognized as a natural broadcasting unit which has at its disposal a broadcasting station or stations which will serve a community of interests. The region should have a common historical and social background, a common commercial and industrial enterprise, and a growing homogeneity of culture. Since one station will serve each region, there can be no competition or duplication of programs. The station would be under the direction and counsel of a centralized staff and would employ the best of broadcasting talent.

Final plans for regional organization must depend upon undevel-

⁵ "Education by Radio," *School and Society*, XLVI (June 1, 1935), pp. 725-26.

oped radio potentialities such as frequency modulation and television. They will also depend upon the physical geography of the area to be served, or upon the size and density of population centers, and upon the socio-economic and cultural level of the people.

There are apparently successful forms of regional radio education in operation within our nation today. Much publicity, for instance, has been given the Rocky Mountain Radio Council, which renders regional service to Colorado and Wyoming with the cooperation of twenty-nine educational and service groups. All colleges, several parent-teacher groups, farm organizations, women's clubs, and social service agencies are members of the council. These organizations share part of the production expense, and the council assumes the remainder in connection with nineteen stations. An exchange center for scripts, recording equipment, and transcriptions is maintained. The listening audience is kept informed by radio publicity, by printed or mimeographed announcements of individual program series, by news releases in newspapers, and by Council Bulletins.

State educational systems are sometimes considered regional. Each state in the nation has its own system of education. It would be easier to build up a radio system for each state if radio waves could be confined within political boundaries. The Texas School of the Air probably has come nearest to being a regional system within one state. Excellent work has also been accomplished through broadcasts under the direction of the state of Ohio and by the state of Wisconsin.

Many cities have refused to leave the entire responsibility of educational programs to national networks. One strong argument for metropolitan-operated stations is that programs can be better adjusted to the curriculum. This point is well illustrated in the remarks by an interested educator: "A social science radio lesson at Cleveland on the subject of religious toleration was broadcast to the seventh grades. The period commenced with the dramatization of scenes in the life of Roger Williams and closed with a talk about various churches in the city. The children were supplied with work folders containing the outline of the lesson, pictures of various Cleveland churches, and other illustrative material. Now it happens that this year among the history programs of the American School of the Air there was a radio drama devoted to the life of Roger Williams, but the latter part of the Cleveland program with its local application

could not be presented so well over a national network because it was not likely that many of the junior or senior high schools of the United States were at that time working on a unit of religious toleration, and even if they had been, a different local application should have been made."⁶

New Techniques an Aid to Local School Broadcasting. In 1946 the Federal Communications Commission announced the assignment of twenty-five ultra high frequency radio channels for frequency modulation educational stations. These channels are free from static and interference from other stations. The assignment of these frequencies for educational purposes will enable any county or city, with a few exceptions, to have its own radio station without interfering with programs in a neighboring region. We can look for rapid development from this avenue of radio education during the next few years. National networks will have to improve their programs to meet this new competition. Local, regional, or city systems will be able to offer a new medium of culture. Likewise, the future developments in television may revolutionize the entire field of radio education.

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⁶ Alice Keith, "National School Broadcasts," *Education on the Air*, 1932, pp. 32-33.

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The Future

THE GREATEST CHALLENGE to man's imagination lies in the consideration of the future. Prediction regarding any domain of the future is provocative. To forecast coming events in such a magic realm as radio, a study of electronics is particularly fascinating, for its devices are increasing in number and in application. Not only will the future of radio and its associated arts be determined by the course of human history; radio will in turn play a significant role in the very determination of that history. As our world is diminished in apparent size by advancements in aviation and in radio and television, the responsibilities of those in charge of our policies and our education become more urgent.

Although there is a temptation to allow one's dreams to become grandiose while contemplating the future, we must limit our forecasts to analyses of current trends and a survey of new developments. In considering radio in relation to education, we must maintain a practical and realistic point of view. Legislation and economics, experimentation and scientific advancement, will help to determine the future of radio in education.

Continuation of Trends. Despite the vast changes to which we look in the postwar world, many of the old ideas, the old activities, and the old problems will continue. Cultural patterns and folkways are not easy to change. First come the seeds of change in scientific and technical developments; then come adaptations and acceptance. Notwithstanding the discussion and agitation for changes, there is unlikely to be any abrupt reorganization of educational philosophy and method. Despite eager goodwill, it takes time for ideas and techniques to filter into the established regimen. Recognizing that there remain some negative attitudes toward the value of radio in education as well as considerable disagreement about techniques, we cannot look for a complete solution of all the problems even by the release of equipment and the addition of qualified personnel.

In the first place, considerable hesitation remains regarding the installation and use of radio and its sister devices because of the expense involved. There may be hesitation on the part of many ad-

ministrators and school boards to buy radio or introduce frequency modulation equipment, television equipment, transcription service libraries, and materials of instruction for any or all of these. Reluctance may be accentuated as a result of budget uncertainty. While there may be lavish spending in some directions, it is also possible that there may remain a conservative attitude about expenditure for school equipment. We do not wish to make a negative forecast. In surveying future possibilities, we must recognize, however, that obstacles do confront the maximum effective use of radio devices in schools.

Furthermore, we must not anticipate that all the developments in the use of radio and associated materials will be in the nature of change. Much of the progress will be by way of finding new and improved means of using the tools and skills now available. Sometimes financial insecurity has prevented the acceptance of radio, sometimes the lack of trained administrative personnel to help teachers in their use of this medium. Sometimes (and this is particularly true of small school systems and in rural areas) lack of equipment has prevented otherwise eager teachers from tapping the rich resources of radio material.

While World War II may have directly or indirectly contributed to some of these difficulties, it has also served to intensify interest in audio-visual materials. The experience of educators in training army and navy personnel, especially in accelerating instruction in many complex fields of study, certainly will be reflected in new ideas and methods for education in peacetime. Schools must take advantage of the new ways of using radio, recordings, and visual aids which were developed through successful war training programs.

The deficiencies of radio in education may well persist for several years. Primarily, there is a grave lack of well-trained experts to organize and instruct teachers in the skills and understanding of the audio-visual devices. Not only is there a dearth of well-qualified teachers for leadership, but also many efforts to train in-service teachers are sporadic or poorly organized. Although much information concerning devices exists, it is not readily available. Often the prevailing attitude of teachers is one of apathy. "Too much to do already," is the protest of many an overworked instructor. Coexistent with better and more extensive training of teachers should be an attempt to

develop an alert and aggressive interest in radio. There is also need for more uniform facilities. Some schools will have excellent equipment while others in the same region have none. This situation is often found within the same school system. Certainly one of the prime responsibilities of those interested in the future of radio education is to see that equipment is more equitably distributed to schools. Problems of training and of distribution merit first consideration in trying to realize the dream of the future.

Those schools which have some equipment available may take great strides in the intelligent and varied use of it. One important step may be planning for listening libraries. Since many fine radio programs of educational significance are now recorded commercially or recorded by schools, a great opportunity is lost if these electrical transcriptions are not made available. In a booklet entitled *Planning Tomorrow's Schools* the Radio Corporation of America depicts two possible set-ups whereby pupils may have ready access to recordings under qualified supervision. In one, the students check out playback equipment, records, and earphones and use them in the library. Students can be listening to different things at once without disturbing one another, for the sound is brought individually to the pupil by earphones. A more elaborate set-up is possible where there are a series of small soundproof rooms. One or several students may go into a room for study and enjoyment of the available recordings. Certainly this type of library service is as important a part of supplementary education as a library collection of books and periodicals. Listening and reading supplement each other; the student listening to a specific program may seek further information by consulting librarians for reading material. Lasting habits that lead to self-education may be fostered in this way. If this is true, then listening libraries are indeed justified.

The most challenging area for consideration is not radio as part of the audio-visual aids program but the expanding possibilities of the use of electronics. Perhaps with our relatively recent and slow acceptance of radio itself we are unduly optimistic to anticipate sudden and widespread use of these new developments. Nevertheless, they deserve a place in the thinking of school administrators and teachers. If educators are to realize their full responsibility they must be alert to all the varied devices of radio electronics. Whether

or not educators consciously use these avenues of communication in their teaching, whether or not they recognize their vital significance, the influence of radio and its associated media of communication is almost immeasurable. With the new developments, the impact upon American life and folkways will be even more striking. We cannot ignore these influences; we can put them to effective and beneficial use. The realm of electronics is constantly expanding. A visit to General Electric in Schenectady, to Farnsworth in Fort Wayne, or to the Radio Corporation of America at Camden, New Jersey, suggests the complex and impressive future potentialities.

The Future of Frequency Modulation. Frequency modulation is a method of sending radio waves which offers certain advantages over amplitude modulation, the method of transmission now in general use. By no means new, frequency modulation, or FM, has yet to reach its full distribution throughout the nation and its potentialities for entertainment and education. Perhaps FM will be the most significant of the several advancements in radio electronics. Indefinite expansion of the facilities of AM radio is impracticable; already there is overcrowding of the airplanes and marked interference between stations. Yet the applications for broadcasting licenses increase. FM allows for countless new regional stations, and the frequencies allotted by the FCC for educational institutions opens new channels for radio education.¹

The advantages which FM offers to radio listeners and to broadcasters are many: greater fidelity of tone, particularly in the reproduction of music, greater freedom from static,² opportunities for a larger number of stations without interference,³ and relatively small expense in construction and maintenance of broadcasting and receiving equipment.

Education and Entertainment by FM. Perhaps most significant to the educator is the fact that FM will permit school systems to operate

¹ The FCC allotted twenty frequencies for noncommercial educational groups, seventy for commercial use. See "FM Goes Upstairs," *Business Week*, June 30, 1945, p. 90.

² Actually, FM is not entirely staticless. Sunspots, temperature, and humidity conditions may affect the transmission. Some interference in long distance FM broadcasting has been reported. W. B. Lodge, "Keeping FM Free from Interference," *Broadcasting*, XXVII (August 14, 1944), p. 13.

³ Only alternate channels within a given area may be used to avoid intra-station interference; thus there are some limits to the increase of FM stations which may be expected.

their own broadcasting equipment without dependence upon commercial station managers. FM will not only allow for a greater number and variety of programs for direct in-school use, but will also afford splendid opportunities for programs directed to the child at out-of-school hours.

According to W. D. Boutwell,⁴ there are five major talking points for the use of FM for education:

1. The broadcasting units and receivers are inexpensive to install, and the cost is equivalent to the expense of building and furnishing two classrooms.⁵
2. FM is one of the technological aids to teaching which must be used more widely if education is to keep pace with the changing world.
3. Educational FM and commercial FM stations may supplement, not compete with one another.
4. FM offers many aids to teaching.
5. FM offers good communication avenues within a community or school and an insurance against emergencies.

The value of having FM facilities available for presenting a program designed specifically for a particular phase of study in a given subject area is readily apparent. The "News of the Week" program (Columbus, Ohio) is directed to the interests of children at the intermediate level. "Reading Is Adventure" is a series presented by the Texas School of the Air to enhance interest in books and reading among elementary school students. Besides providing inspiration for special subjects by in-school broadcasts, FM facilities may supply supplementary allied material to the classrooms. Of course, these benefits can be provided through AM facilities, but as we have seen, there are many drawbacks to using commercial radio networks to further educational aims. While most FM stations are commercial, there will probably be more educational stations than in the case of AM. Even an increased number of commercial stations would permit more educational broadcasts for schools.

A school system may use an FM station of its own in many ways. It may present specific types of programs for schools, such as news or

⁴ "Education's Megacycle," *Journal of the Association for Education by Radio*, III (September, 1943), p. 8.

⁵ This does not include the cost of maintenance, operation, or a qualified staff, however.

current events series; it may offer subject motivation and programs which will serve as supplementary aids to study.⁶ Among outstanding radio programs designed to meet particular school needs we may mention the "Voice of Young Democracy," offered over WMCA (New York City) through the cooperation of the city schools and Youthbuilders. This series featured children of nine to sixteen years conducting an unrehearsed forum on current events. The schools of Evanston, Indiana, presented for their young listeners "The News Interpreted for Children," a series which included a weekly quiz in which social science students were rated on their knowledge of news. The teachers of Portland, Oregon, used subject motivation from a series, "Figure It Out," a program about arithmetic which included a quiz, a number story, and an interview with some adult who emphasized the use of mathematics as a vocation. Fifth and sixth graders of the Indianapolis public schools found motivation for reading from "Treasure in Books." Similar interesting examples in relation to nearly every subject area may be cited as part of the pioneer undertakings of various schools.

Other uses of FM in schools suggested in *FM for Education* are: in-service training, presentation of guidance information, adult education programs, announcements, information in emergencies; forum and discussion programs, and programs for the handicapped.⁷ One may add that the use of FM for transmitting programs and information within the school system, either locally or on a state-wide basis, may serve to unify schools and provide similar opportunities for pupils everywhere. Considering these possibilities, which must be adapted to the individual needs of the schools and pupils, one may say that the costs of an FM station are not prohibitive in relation to the benefits derived from it. If one believes in in-school broadcasting to the schools by school boards, as in New York City, Cleveland, Chicago, and San Francisco, and by the students, the potentialities for an FM station owned by a school system, a state, or a region are almost endless.

⁶ W. D. Boutwell, *FM for Education*, U.S. Office of Education, 1944.

⁷ *Ibid.* In regard to radio for the handicapped, we may note that radio may help the pupils who must miss regular school attendance because of some permanent or lingering illness or those children who are at home because of a temporary illness or injury. While they cannot share the school experience completely via radio, they may save many otherwise lost hours.

It is suggested in *FM for Education* that there should be an FM network in each state. The reasons are several:

1. The use of networks will lighten the load of each participating station and will allow for the sharing of programs; although the FCC does not require operation for any minimum number of hours, it would be desirable to make maximum use of the facilities.
2. Better services from the state departments of education might be had by the immediate and frequent contact with teachers; all the schools might have similar services.
3. The colleges and the special schools of the state can offer services to every school in the state, thereby expanding their campuses.
4. Interchange of views and contributions may be fostered.
5. FM networks can broaden the curriculum of the rural schools, particularly the rural high school.⁸

Many states are planning for such FM networks. For example, Connecticut is putting up five transmitters for thousand-watt FM stations in order to secure state-wide coverage for an educational network.⁹ Other states with similar plans are Wisconsin, Ohio, and Michigan. Certainly the advantages afforded by FM stations for schools may be multiplied by the establishment of state-wide, or even interstate, networks devoted primarily to broadcasts for the education of children.

By having a central planning board, perhaps administered by the State Department of Education, the entire program may be unified. By distributing the effort, moreover, one institution will not be overburdened by the insatiable demands of the medium, a problem university-owned station managers have always found trying. Different institutions will benefit individually from the actual broadcasting projects they undertake, but listening schools would enjoy greater uniformity of training through programs distributed by identical radio facilities. WHA and the University of Wisconsin are again pioneering in radio; the legislature granted over \$72,000 for the construction and operation of a state FM system during 1945-47.¹⁰ Thus

⁸ *FM for Education*, pp. 25-26.

⁹ Robert C. Deming, "Education Plans Its FM Network in Connecticut," *American Association of School Administrators, Official Report*, April, 1945, pp. 193-97.

¹⁰ "Wisconsin Launches FM Plan," *Journal of the Association for Education by Radio*, V (November, 1945), p. 44.

Wisconsin was the first state to have funds allocated for a state-wide educational network.

The value of FM has been demonstrated by several regional networks and, more specifically in relation to education, by the Rocky Mountain Radio Council. Each state and area has specific and individual problems; national networks cannot answer all individual needs, and the diverse interests of many geographical regions and their occupational problems are entirely neglected. This lack of regional material has been a shortcoming of the current method of broadcasting. Radio today tends to ignore the responsibility of acquainting the child with his environment. In the plans for the use of FM, the University of Michigan Extension Division, however, means to include radio broadcasts featuring facts about the state.¹¹ Although it may be impractical for each state and region to broadcast such information, local history and data are greatly needed as a part of the culture of the growing child.

We may look for this kind of development not only because FM will greatly increase available stations, but also because FM is expected to prove economically sound in cities previously unable to support radio stations. Even when a school system or board of education does not own an FM station, an increase in local stations may mean that there will be more and better time available to bring suitable material to pupils for out-of-school listening at least.

That FM facilities within easy reach of every schoolroom would mean greater opportunities for pupils to gain radio experience is obvious. Yet the emphasis should continue to be on professional production. Radio should never lose its dignity by becoming a plaything. High standards must be maintained even when youthful broadcasters do not compete for commercial time. It is noted, for example, that the San Francisco Board of Education station (KALW), the first educational body to be granted a license to broadcast on FM, gives the preponderance of its time to educational features *for* the schools rather than programs *by* the pupils.

Some have asked if the increase of FM stations will mean a decrease in the use of other radio aids, specifically the electrical transcription. By no means. There is still ample place for the recording in the classroom. Good recordings, both musical and narrative, more-

¹¹ Bulletin issued by the University of Michigan, 1944.

over, may constitute a significant portion of the broadcasting on FM stations when such material merits attention from a large segment of the audience.

To offer a picture of the coming situation in regard to FM radio, we may quote from the introduction to the U.S. Office of Education bulletin, *FM for Education*:

The day is not too distant when the United States may have more than a thousand educational FM stations; when a radio receiver is at the elbow of every teacher ready to provide the kind of radio service wanted at the time it is wanted; when teachers and administrators have learned how to use radio; when radio can take learning from the centers in which it is now located to people wherever they may live; and when radio will permit communities to understand their community problems through hundreds of local radio forums. FM radio service can never replace any teacher but it can help all teachers and citizens toward the goal of American education, community-wide education service for community members of all ages and all walks of life.¹²

Facsimile Broadcasting Related to Educational Radio. Another extension of radio electronics which is significant for the schoolroom is facsimile broadcasting. While not new, it, too, has yet to realize its full importance.¹³ Radio facsimile is a process of transmitting any printed or pictorial material — print, maps, symbols, pictures, photographs — by means of a photoelectric cell. The variations in light waves are reflected from the graphic copy, and the electric impulses are amplified and transmitted by either AM or FM broadcasting transmitters. Facsimile thus combines the immediacy of radio with the permanency of record and print. Because it enters the visual world, it offers some of the advantages of broadcast television. Perhaps it is because of these qualities that John V. L. Hogan said that facsimile is the Cinderella of the broadcasting industry; he predicted that within five years after the war it would be a more important and an economically sounder broadcasting service than television.¹⁴

¹² *FM for Education*, p. ii.

¹³ As early as 1842, the first patent on the facsimile idea was taken out; the device became radio photo, then developed to wirephoto service distributed by telephone. See *Education on the Air*, 1939, p. 267.

¹⁴ "Facsimile, FM Seen as Next Services," *Broadcasting*, XXVII (September 4, 1944), p. 13.

Facsimile receivers may be attached to existing radio cabinets. A device may be arranged so that printed material may be recorded during the night. In this way a complete newspaper could be ready for the consumer each morning, or a school assignment or a test for each classroom. A unit is promised which will deliver a picture forty-eight inches square or a thousand-word text a minute. It is obvious that a vast amount of material can be made available through this medium. Once the problem of the distribution and insertion of paper in the machine is solved and the time for facsimile broadcasts is established, plans for national use of this service could be made.

One may immediately list countless aids to the schoolteacher if he had access to facsimile broadcasting facilities. Lesson sheets, assignments, diagrams, pictures, bulletins, announcements, maps, annotated musical scores, scientific formulae, and mathematical equations could be broadcast. Even examinations could be administered with the aid of facsimile. Not only is distribution immediate and widespread throughout a school or school system, but it does not disrupt class schedules. Radio facsimile may bring additional service to the busy teacher while it widens the possibilities of learning for the pupils.

Recording Equipment and Recordings. We have already discussed recordings as a supplement to radio both in and out of the classroom. We have suggested that the recording disc has a great competitor in the steel tape, or wire, recorder.¹⁵ This recording machine is portable (about ten pounds) and simple to operate. It operates on the principle of magnetizing a thin tape of steel. By demagnetizing the tape may be cleared and reused. On the other hand, when a program is recorded, the tape may be cut, wound on a spool, labeled, and prepared for storage. A recording can be played for sixty minutes without inserting a new spool of tape.

The magnetizing and demagnetizing of a steel tape are found in many so-called voice mirrors and instantaneous playback machines. These machines make no lengthy or permanent record, but they do offer a person the opportunity to hear himself at once by a simple touch of the switch. When the person is finished, the pattern is erased.

¹⁵ James F. Cooke, "Recording on Wire," *Etude*, LXII (January, 1944),¹ p. 24. Also, "Wire for Sound," *Time*, XLI (May 17, 1943), p. 58; and Harlen M. Adams, "Magnetic Tape Voice Recording," *Quarterly Journal of Speech*, XXVII (October, 1941), pp. 376-82.

These playbacks may be very valuable in illustrating errors and good points in speech.

Cellophane tape has been developed which may be practicable for school recording. Its features are a minimum of surface noise, good tone, great durability, ease of production, low cost, and the possibility of a large number of playbacks.¹⁶ Another interesting addition to recording and playback equipment is a slow-motion recorder phonograph which will play for hours without changing records. Surface noise is removed by embossing the grooves instead of cutting them.¹⁷

Such developments will doubtless affect the future types of recordings made by or distributed to schools. One of the problems of school use of recordings is storage. Recordings should be handled in much the same manner as other library materials, that is, catalogued and filed systematically. Unfortunately, most of the records available at the present time are breakable; some have been made of glass. The fact that they are bulky, that they may break, and that they may warp if not handled properly makes storage a problem. Of course, no records or transcriptions should be handled carelessly.

For an excellent system of cataloguing and filing records, we recommend the bulletin by Alice W. Manchester, "Setting up a Recordings Library."¹⁸ In this article Miss Manchester describes different categories into which records were divided in a particular institution, the symbols used, and other pertinent material.

Sources of recordings are increasing. A wide variety of material is being offered, and the quality of writing and production is improving. School systems should take the initiative in distributing information about recordings to teaching personnel. Although many periodicals list new transcriptions, each teacher cannot be expected to peruse all the sources of information. A committee of teachers or a department in the school system should take the responsibility. The example of the Detroit Public Schools might be followed. Recordings are gathered, filed, and catalogued, and a booklet listing and describing them is issued to the teachers. Programs are presented alphabetically, and each one is described as to content, playing time, the curriculum

¹⁶ "Sound on Cellophane," *Time*, XLII (December 20, 1943), p. 66.

¹⁷ "All Day Records," *Time*, XLVI (August 6, 1945), p. 90.

¹⁸ Alice W. Manchester, "Setting up a Recordings Library," *Educational Research Bulletin*, XXIII (April 19, 1944), pp. 89-92. A reprint is available from the FREC.

areas it might help, and the age to which it will appeal.¹⁹ Supplementary lists are issued each semester.

Among the general sources of information about recordings we may cite the following:

Educational Radio Script and Transcription Exchange

Institute of Oral and Visual Education

Radio Arts Guild

J. Robert Miles, *Recordings for School Use*, 1942

Emilie L. Haley, *A Catalogue of Selected Educational Recordings School Life*

The News Letter

FREC Service Bulletin

Journal of the Association for Education by Radio

The Future of Television in Radio Education. People are eagerly looking forward to a widespread use of television. The relatively few who have witnessed demonstrations at stations, fairs, and in the few cities now served by television are attracted by its splendid possibilities, and those who have read and heard about it are enthusiastic and eager. Experiments indicate that television can bring its audience a wealth of pleasurable experience. New York City, Schenectady, Los Angeles, Chicago, and a few other cities have pioneered with television. While there are but a few active stations today, it is anticipated that within the next few years there will be one hundred stations serving sixty-seven million people.²⁰

Periodically television has been promised for widespread distribution. There are still, however, many problems to be solved. Because of special engineering problems it may be necessary to construct master television broadcast stations in the major population centers. These stations would originate the broadcasts, particularly programs involving complicated and elaborate production. In order to bring these programs to a widespread audience, there would need to be "relay stations" to form a network. WRGB (Schenectady), for example, is connected with New York City by a relay system, the two cities forming the first television network in the world. Whether future television networks will operate by coaxial cable or on high frequency

¹⁹ *Radio Script and Transcription Catalogue*, Department of Radio Education, Division of Instruction, Detroit Public Schools, September, 1943.

²⁰ *Broadcasting Post-War, FM, Television, AM*, General Electric, p. 15.

radio waves or otherwise is still a question.²¹ In any event, we may be assured that there will be television networks, doubtless two-way. Smaller communities, without economic resources to support the installation and maintenance of a large television station, may be served by so-called auxiliary or "satellite" stations. Such auxiliary studios may offer the major network programs but can also serve local needs. Pictures showing local products for sale, telecasts of news and special events, forum discussions, and simple skits or demonstrations could be produced. Pictures taken by a 16 mm. camera might be used with a magnetic wire recorder, or local requirements might be met by means of a portable pick-up, a sight and sound truck with a portable camera unit. Thus, by coordinating the large centers and the smaller local units, the various sections of the nation may be served by television. We can also look forward to color television and on-the-spot telecasts to keep us alert to the changing panorama of the world. Color television will combine the advantages of radio and movies.

It must be recognized that considerable expense in the installation and maintenance of equipment is inevitable, and these costs are such that growth may be slow. It is perhaps doubtful that schools, at least at first, can own and operate television stations. Schools may, however, own receiving sets. In fact, school use, rather than school production of television, will doubtless be the normal situation for several years to come.

The potential uses of television are many. Besides broadcast television, which may supplement our current use of radio, there will be industrial television, which will offer industrial companies new avenues for merchandising. Certain products or features may be televised within a store; for instance, a customer may sit in the store's auditorium and see a display of the merchandise. Another possibility is that industrial television may reach directly into homes. We mention this here because this will be a direct influence on out-of-school experiences and therefore on the attitudes of the pupils.

Special Psychological Advantages of Television. As early as 1932 the University of Iowa was experimenting with television in terms of education. Over station W9XK the university offered televised lessons

²¹ According to *Time*, the FCC has limited the high frequency bands for television to twelve lanes, *Time*, XLV (January 29, 1945), p. 62.

and demonstrations in many subjects: shorthand, dramatized children's stories, character sketches, oral hygiene, etc.²² Such work with television, however, has been slow and halting. Only recently has there been any great interest from the educator's point of view. Already we are beginning to look to the future.

For the educator the psychological factors of television are of prime interest and importance. Here we have, along with the immediacy of radio, the ability to bring visual, on-the-spot broadcasts to an audience. There is a more vivid image and a stronger impression. The value lies in the fact that the visual does not merely augment; the experience with sound is incorporated with it. The child no longer needs to depend on one sense alone for information. The use of television by the school changes the role of the teacher somewhat. He will not need to attempt to augment the pupils' radio experience by use of visual aids.²³

Television can help to enlarge the world of the child. Radio has contributed to the expanding frontiers of the pupil's world, and television may do even more. Depending as it does upon sound and upon word pictures, radio alone is not able to bring certain features of society and nature into the classroom. This is especially true of material depending upon visual appreciation, such as geographical locations, physical events, cities, industrial plants, art exhibits, or dance demonstrations. Television will allow the broadcasting industry to serve many areas of experience that have been hitherto neglected.

The addition of sight to radio can enhance and sometimes correct the impression we gain by listening. For example, our imagination creates a visual image of the person making a broadcast, but we are not certain that our picture is even approximately accurate. Television would afford us the pleasure of seeing a person in action or of seeing a place as it really is. The immediacy of radio plus the picture offered by television serves to eliminate barriers to understanding. A mobile unit can take the audience to nearly any scene of importance or to

²² *Education on the Air* (1944), pp. 251-53.

²³ The teacher may continue to be responsible for providing other visual aids and extensions and applications of the material presented by television broadcast. The real test of the value of any program lies in its influence on the learning of the pupils. Utilization continues to be the keynote. Certainly the teacher will need to suggest types of participation and follow-up activities for use with many television programs as well as with radio broadcasts, especially if some specific skill or information is to be acquired.

any type of event. Television can make actuality or documentary broadcasts frequent, vivid, and significant.

Again, as in the case of radio, it is with the indirect effects of television that the instructor must deal. There will be teaching of the most vivid sort in the many programs designed for out-of-school listening.²⁴ Not only will the audience hear about many activities, professions, and behavior, but it will observe them. Visual patterns for thinking and doing will be provided day after day, hour after hour, not just occasionally, as in the case of a movie or a stage play. Demonstrations of products and service programs will deliberately illustrate ways of performing certain things; the daily fare in dramatic shows will offer demonstrations as a by-product of the story and action. In a series such as "One Man's Family," for instance, Mother Barbour might be seen mixing a cake, Father Barbour at his gardening, Betty bathing her babies, and so on. Realizing that the audience is unconsciously learning while watching television plays, writers should respect their responsibility to the audience and exercise great care in choosing action and behavior for the characters they create.

If a child observes an artist at work in a program or, more significantly, in a series where the artist may be observed over a period of time, he will learn something about the requirements and techniques of art. Similarly, the child may develop standards of color, design, home furnishing, or fashions through daily television programs. Television, like the movies, will furnish children with good or bad models of behavior. The producers of television programs and educators must be aware of the responsibilities added by this new medium. The teacher must be prepared to train pupils to understand television and to use it wisely; the producer must be exacting in his demands and accurate and conscientious in his selection of material.

Among experiments in using television, we may note several of value to the educator. Education in art appreciation has been forwarded by radio, but the fact that the audience on the whole did not see the pictures described imposed limitations on the effectiveness of the programs. Telecasts can serve this area of experience. During

²⁴ Even eager educators must remember that the majority of the programs will be planned for entertainment.

1941-42 CBS and the Metropolitan Museum of Art and other art institutions cooperated to explore the possibility of televising the arts. The programs attempted to integrate the entire field of American expression with the visual arts, and attention was given to political and social cartoons, costumes, bridges, barns, and a great variety of commonplace things as well as to painting and sculpture. The broadcasts were given twice, once in the evening for parents and again on the following afternoon for children. The giant television equipment traveled around the gallery, and the audience was given the opportunity to see many famous portraits.²⁵ Television will be able to acquaint children with great art at an early age so that they may grow up with a better understanding of their heritage.

While the Mutual program, "Private Showing," was a commendable attempt to bring pictorial art to listeners, it would have had far more impact if it had been televised. In this series (1946) one of the pictures on exhibit at the Metropolitan Museum was described in each broadcast. Then a play inspired by the subject of the picture or its artist was presented. Following the dramatization came a commentary on the artist and his work. This type of program is admirably adaptable for television.

Television's possibilities for aiding education are by no means limited to art. A special program which may have implications for the future was the televised broadcast given over WRGB, Schenectady, in November, 1944, on the two-hundredth anniversary of the publication of John Newbery's first book for children.²⁶ The program showed children trooping to our libraries to see exhibits of old and new books. Slides showing some of the early primers were lent by the Metropolitan Museum to be reproduced on this television show. First came dramatizations of portions from John Newbery's first book, *A Little Pretty Pocket Book*; later, *Jack the Giant Killer* was enacted.

NBC pioneered with an educational television course, "Your World Tomorrow," begun in April, 1946.²⁷ The emphasis was on recent discoveries in physical science, with plans for presenting tele-

²⁵ Gilbert Seldes, "Television and the Museum," *Magazine of Art*, XXXVII (May, 1944), pp. 178-79.

²⁶ "First Book Week Television Program," *Publishers Weekly* (October 28, 1944), p. 1732.

²⁷ "This Is the National Broadcasting Company," bulletin issued by NBC, March, 1946.

casts from such places as the Smithsonian Institution and from other national museums and laboratories. Flexibility is the keynote of the series, with emphasis on dramatization, demonstration, and the pick-up of special events.

By augmenting and enriching the classroom work, television broadcasts can help the teacher train pupils in a multitude of skills. He can demonstrate ideas or functions that are difficult to represent by radio alone. Television integrates sight and sound so that effects are complete. Symbols, figures, equations, demonstrations, or experiments may be included in a telecast, thus creating many new experiences for the students. Through demonstration or experiment via television, an expert teacher can present the pupils with valuable information without duplication of effort by teachers in different classrooms. This advantage is particularly important in view of the diversity in the amount and types of equipment in the schools. Of course the teacher cannot depend upon television to supply all the experimental evidence for his lessons, but there are occasions, particularly in the field of science, when a televised demonstration could be more elaborate, more accurate, and more effective than when attempted by teacher or pupils themselves.

In television broadcasting, greater emphasis will be thrown on dramatic productions. While there will be many on-the-spot telecasts, the majority of programs will originate from the studios where equipment, lighting, and other facilities are centered. While television will offer tremendous benefits to dramatizations, it imposes certain problems as well. Television will bring complicated questions of staging, lighting, placement of microphones, design, and costuming unknown to radio. High standards of production will be demanded by audiences conditioned to movies and stage plays. Unlike the radio, television demands memorized lines, not script reading; unlike the movies, television does not allow for errors and re-takes. More time, more meticulous care, and more expense are required for a dramatized television broadcast than for a radio serial, for example. Not only does this fact have implications for the training that will be necessitated; it also vitally affects the advertisers who pay the bills. More significant, it revolutionizes the work of educators. For one thing, the expense and the elaborate requirements for a dramatic show will bar most schools from producing plays. For another, out-

of-school listening may come to have much more influence than in the case of radio today, an influence which may have to be considered very seriously in the classroom.

Those working with television are fortunate in that they may draw upon the rich experience and achievements of the movies and radio. Television experts do not need to start at the bottom, as did pioneers in the other fields. Television has certain individual demands, however, in that the stage space is very restricted, scene shifts are difficult to accomplish, and the program must be continuous. In this respect it duplicates stage presentation.

Problems in Using Television. Radio listeners have always been able to indulge in other activities while hearing programs. While this hardly promotes the most alert listening, the habit has become a national folkway. Teachers who use radio in their schoolrooms often have difficulty in making the students direct their full attention to the programs. People must be reconditioned. They must learn to listen and to watch with their whole attention. In some ways this is made easy by television, for the screen will serve as a focal point. But the room must be darkened. Seating problems arise. How shall the pupils be arranged so they can all see? A television program should not be allowed to cause class disturbance.

Even if the teacher does not use television in the classroom for some time, he will soon be concerned with out-of-school television. How can he be certain that the pupils will observe educational programs attentively? Will they grant them sufficient attention when they form part of their leisure-time environment?

With the advent of television the teacher will have even greater responsibility for helping pupils establish standards of evaluation and discrimination. With the integration of sight and sound television broadcasting will have great influence upon the behavior and attitudes of its audience. Educators must be alert to their new responsibilities. They must consider their role in relation to television broadcasting at once and must not allow too much time to slip by. Educators and schools should begin training teachers and parents for their new role. Radio broadcasting burst upon an unprepared population; television has long been heralded. Every provision for its intelligent educational use should be planned so that the errors of lost time and opportunity will not be part of its biography.

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Index

- ABC of Radio*, 389
- A.B.C. *See* American Broadcasting Company
- Abe Lincoln in Illinois*, 11
- Achievement tests, 102
- Acoustics in classroom, 369
- Activities, 84; art broadcasts, 194
- Adams, Harlan M., 140
- Addy, Wesley, 125
- Administration, 93-94, 325; radio education, 325; scheduling, 330, 333-334
- Adolescent Personality*, 388
- "Adventures in Our Town," 93
- "Adventures in Research," 279
- "Adventures in Storyland," 212
- Adventures of Tom Sawyer*, 120
- Advertisers, F.C.C. action against, 403
- Advertising, 4, 237-239, 363; and children, 237; as a science, 238; false, 403; patent medicine, 238; revenues, 230; standards, 363; value of radio in, 211. *See* Consumer education
- Advisory committees, beginning of, 386
- A.E.R. *See* Association of Education by Radio
- "Afield with Ranger Mac," 304
- Age, at which interest in radio begins, 94
- Age level, 94
- Akron Dental Society, 310
- Alameda City School of the Air, 20, 43, 70, 75, 96, 124
- Alice's Adventures in Wonderland*, 140
- Allport, G. W., 10
- "Always Be Careful," 318
- AM radio. *See* Amplitude modulation
- Amateur radio programs and contests, 346
- "America, My Country," 176
- "America at War," 154
- "America's Heroes," 203
- "America's Town Meeting of the Air," 49, 228-229, 381
- American Broadcasting Company, 356, 380-382, 389
- American Classical League, 154
- American Dental Association, 242
- "American Forum of the Air," 229, 382
- American Historical Association, 254
- American Home Economics Association, 242
- American Library Association, 330
- American Medical Association, 242, 309
- "American Portrait," 254
- American Red Cross, 212, 311, 359
- "American School of the Air," 28, 31, 95, 121, 146, 171, 175, 192, 254, 280, 356, 381, 386, 406; begins in 1930, 385; health, 311
- "American Scriptures," 143
- American Social Hygiene Association, 311
- "American Story," 202, 253
- "Americans All—Immigrants All," 142
- "Americans Who Made History," 124

- "Amos 'n' Andy," 105
 Amplitude modulation, 383, 413, 418
 Andersen, Hans C., 127-128
 Angell, James R., 397
 "Anthology of English Lyric Verse," 111
 Appreciation units, 76, 356
 Archie, 105
 Arithmetic, at Cleveland, 288; current use of radio in teaching, 288; individual differences, 287; problems of radio teaching, 289; pupil participation, 287; radio, 286-297; radio advertising, 286; sample radio lesson, 296; skills and radio, 297; social value, 284; vocabulary, 288
 "Arithmetic Problems — Old and New," 293-295
 "Arithmetic Radio Lesson," 296
 Armstrong, E. A., 379
 Art, 185-195; and music, 193-195; and social studies, 193; and television, 425; appreciation, 185-192; appreciation and participation, 185-186; broadcasts preparation and follow-up, 187; Detroit Public Schools, 193; exhibits and radio, 189, 191; famous paintings, 187; Indianapolis Public Schools, 187; instruction through radio, 188-191; participation, 192-195; visual aids, 187-188; WHA and, 189; WNYC and, 186
 "Art in America," 186
 Art history, 186
 Art Institute of Chicago, 186, 187
 Art Museum, Denver, 187
 "Art in New York," 186
 "Art Speaks Your Language," 187
 "Art for Your Sake," 186, 188
 "Ascent of F6," 134
 Assignment, as preparation, 52
 Associated Broadcasting Company, 382
 Association for Education by Radio, 53, 390, 421
 Astelle, Louis A., 20
 "At the Foot of Adams Street," 187
 Atlanta, Georgia, 385
 Attitudes, 5, 223-225, 308-309
 Auden, W. H., 134
 Audio-visual aids, 350, 412. *See* Visual aids
 Auditorium, 47-48
Auditory Aids in the Teaching of Science, 388
 "Author Meets the Critics," 122
 Bagley, William C., 381
 Baldwin, Boyd F., 26
 "Ballad for Americans," 134
 Baltimore, Maryland, Board of Education, 248, 289
 Barrie, J. M., 140
 "Battle of the Books," 12, 118, 121, 358
 "Baxters," 268, 301, 311, 359
 Benny, Jack, 11
 Berg, Louis, 9
 "Best Sellers," 357
 Better Speech Institute of America, 103
 Bible and the radio, 244
 Biographies, famous painters, 193; scientists, 279
 Blue Network. *See* American Broadcasting Company
 Board of Education, Baltimore, 248, 289
 Board of Education, Chicago, 121

- Board of Education, New York City, 257, 329
- Bonheur, Rosa, 193-194
- "Book Nook News," 125
- "Book Quiz," 125
- "Book Theatre," 120
- Books, dramatization of, 119; radio education, 328; reviews, 118-119
- Boutwell, W. D., 414
- "Brave New World," 224
- "Breakfast Club," 3
- "Bride and Groom," 3
- Broadcasting*, 384-385, 390
- Broadcasts, in a series, 331, 384; intervals of, 96; length of, 95; number of grades listening, 94; of school lessons to the home, 384
- Brookfield Zoo, 303
- Brown, Francis J., 12
- "Buck Rogers," 13
- Bulletin, suggestions for, 337
- Bulletin Board*, 359
- Bulletins, 65, 328, 336-337
- Burns, Bob, 105
- C.B.S. — American School of the Air. *See* American School of the Air
- "C.B.S. Was There," 202
- Cancellation of time, 404
- Cantril, Hadley, 10
- Capper, Arthur, 265
- "Captain Midnight," 4, 357
- Carmer, Carl, 143
- Carpenter, Harry A., 278, 284
- Catalogue of Selected Educational Recordings*, 421
- Cataloguing of recordings, 330, 420
- "Catholic Hour," 244
- "Cavalcade of America," 9, 123, 253, 311
- Censorship, 230; indirect, 391
- Central planning board, 416
- Central receiver. *See* Equipment
- Central sound system, 332, 366-369
- Charters, W. W., 17
- Charts, 62
- Chicago Natural History Museum, 277, 303
- Chicago Public Schools, 118, 128-129, 203, 277, 358, 384, 385
- Chicago Radio Council, 283, 303, 363, 366, 389
- "Chicago Round Table," 229
- "Chicagoland," 84, 203
- Children, age, 94; amount of listening, 10; and advertising, 237; and community, 266; and current events, 257; and music, 164, 358; and television, 423; interests, 94; preferences, 9-12; preferences, criteria, 388; pre-school, 5, 6, 10
- "Children's Book Quiz," 126
- Choral speaking, 102, 109; and speech defects, 109
- "Church of the Air," 244
- Churchill, Winston, 150
- Civics, 263-266; courses, definition of, 263; objectives of, 263
- Class radio magazine, 86
- Classroom, dramatization, 80; equipment, 367; methods in geography, 248; radio programs, 385; reception, 48; speech, 102; teacher, necessity of, 87
- Claxton, Wayne, 189
- Cleveland, 93, 188, 191, 310, 315; beginning of radio work, 384; physical education, 315; Public Library, 125-126; Public Schools, 188
- Cleveland Museum of Art, 188
- Cliff-hanger, 13

- Coar, Robert J., 265
 "Coffee with Congress," 265
 Colby, Frank, 103
 College stations, 383
 Columbia Broadcasting System, 121, 122, 151, 157-158, 179, 192, 254, 310, 329, 356, 381, 385, 425; and religion, 244; radio institute for teachers, 329
 Columbia Recording Corporation, 125
 Columbia University, 136
Commedia dell'arte, 201
 Commentators, 257
 Commercial content of radio broadcasts, 360
 Commercial programs, 332; and radio education, 400-402; commercial sponsors, 346, 402
 Commercial stations, and rural areas, 402
 Committees to arrange scheduling, 33
 Communications Act of 1934, 391
 Community activities and radio, 266-270
 Community singing, 179
 Composition, assignment of, 59
 Congress, 264
 Connecticut, State Department of Education, 385
 Conrad, Frank, 379
 Conrad, R. Dean, 75
 Conservation, 249, 307, 321; of human resources, 307-321; of natural resources, 249-250
 Consumer, as a radio listener, 241
 Consumer education, 237-242; objectives of, 240; vocabulary, 241
 "Consumer Time," 242
 Consumers' Research Agency, 242
 Consumer's Union, 242
 Contests, 53, 363; Hidden Book Title, 121
 Control of radio, 4, 403
 Controversial issues, 227
 Conversation, art of, 102
 Cooperation, educators and commercial stations, 30
 Coordinator of radio education, 326-327; responsibility, 327
 Corwin, Norman, 134-136, 202
Courier-Journal, Louisville, Kentucky, 148
 "Crafts of the Allied Nations," 188
 Creative activities and radio, 200
 Creative art and radio, 188-192
 Creative dancing, 205-209; and folk music, 208; kindergarten and first grade, 206
 Creative drama, 197-204; and discrimination, 203; guidance in, 201; and radio, 198-200
 Creative expression, 79, 163, 347
 Creative radio, subject matter for, 202
 Creative rehearsal, 353
 Creative writing, 210-213; and adaptation, 212; and advertising, 211; and the arts, 213; types of, 211-212
 Crime dramas, 8, 12
Criteria of Children's Radio Programs, 388
 Critical attitude, 77, 238
 Crosley station, Cincinnati, 382
 Curie, Madame, 279
 Current events, 50, 250, 255-263; and children, 257; units of work in, 260-263
 Curriculum, activity, 73; adjustment 79, 93-94; emergent, 70-71;

- newer trends, 72; organization, 68-69, 219; selection, 68; social-demands, 71; traditional, 69; types, 72-73
- "Daggett Speech Series," 111
- Daly, Frank, 109
- Damrosch, Walter, 166-167; music appreciation series, 166-167, 174, 385
- Dancing, creative, 205-209; interpretative, 205; radio, 206
- Darrow, Ben H., 20, 384
- Debate, 108
- DeBoer, John J., 8, 13
- Decca Spanish course, 157
- DeForrest, Lee, 379
- Delmar, Kenny, 105
- Demonstration, lessons, 275, 328; teaching, 329
- Denver Art Museum, 187
- Denver Public Library, 121, 126
- Department of Superintendence, National Education Association, 220
- Detroit, Education Department, 319, 389; Public Schools, 42, 118, 175, 249; Institute of Art, 194; recordings, 420
- Diction, 82, 111
- Dictionary, radio terms, 81
- Disc-recording process, 368
- Discrimination, 359; in listening, 10, 77
- Discussion, follow-up activity, 59; method, radio education, 51-52, 232-233; motivation, 360; technique, 233; training pupils for, 233
- Dr. I. Q., 358
- "Doctors at Home," 309
- "Doctors Talk It Over," 309
- Documentary radio, 240, 268-269, 270, 277
- "Double or Nothing," 358
- Drama, 8, 137-143, 426; and books, 119; and the Bible, 9, 140, 244; and religion, 244; by radio, 139; social studies, 142; techniques in use of, 141; television, 426
- Dramatic literature, 138; stories for the young, 358
- Dramatic play, 196, 198
- Drill subjects, 63
- Dryer, Sherman, 142
- "Duffy's Tavern," 105
- Editors and commentators, 257
- Education, advantages of television for, 426; or entertainment, 396
- Education On the Air*, 387
- Education by Radio Bulletin*, 386
- Education stations, financing of, 383
- Educational broadcasting stations, growth of, 382; objectives, 396; philosophy, 37; program, definition of, 397; programs, 383; programs, lack of showmanship, 400; programs, sources, 404; radio, early failure of, 382
- Educational Radio Script and Transcription Exchange, 118, 124, 248, 249, 388, 421
- "Egbert, the Mechanical Man," 285
- Eisenberg, A. L., 10
- Electrical transcriptions. *See* Transcriptions
- "Ellery Queen," 9
- Emergent curriculum, 70
- Emotional enrichment, 198
- Emotional experience, 6-8
- Encyclopaedia Britannica*, foreign language instruction, 157

- Equipment, 366-375, 411-412; classroom, 328; central control of, 369; costs of, 370; in-school broadcasting, 348; installation of, 366; lack of, 366; physics of radio, 80; playback, 412, 420; recording, 368-370; requirements of, 244, 367-368
- "Eternal Light," 244, 357
- Evaluation, of programs, 44-45, 60, 85-86; of pupil listening, 57
- Evaluation of School Broadcasts*, 285, 388
- "Evangeline," 124
- Evans, Edith, 136
- Excursion, 72, 77
- "Excursions in Science," 279
- "Exploring Music," 358
- Extent of listening, 10
- F.C.C. *See* Federal Communications Commission
- FM. *See* Frequency modulation
- FM for Education*, 415-416, 418
- Facsimile, advantages of, 418-419; advantages for teacher, 419; and the school newspaper, 419; process of, 418; receivers, attached to radio, 419; related to educational radio, 418
- "Faith in Our Time," 244
- "Fall of the City," 134
- Farley, Belmont, 39
- "Farm and Home Hour," 311
- Farnsworth, Philo, 413
- Federal Communications Commission, 28, 325, 383, 387, 391, 403, 404, 407, 413; action against advertisers, 403; establishment of, 391; license renewal, 392, 404; powers of, 391; regulates standards of programs, 392
- Federal Radio Education Committee, 387-388; publications of, 387; *Script and Transcription Exchange*, 320; *Service Bulletin*, 387, 421
- Federal control, dangers of, 405
- Federal legislation, 404
- Fessenden, R. A., 379
- "Fibber McGee," 4
- "Fiction Parade," 120
- "Figure It Out," 415
- Fine arts, definition of, 163
- Fisher, Sterling, 121, 151
- "Fit for Fun," 316
- "Fit for Service," 315
- Fitch, John, 279
- Flaccus, Kimball, 122, 136
- Folk dances, 208
- "Folk Music and Legend," 207
- Follow-up, 53, 58, 59, 91; activities, 58, 60-61, 126-130, 172; activities of art series, 194
- Foreign broadcasts, short-wave, 157
- Foreign countries, 250
- Foreign lands and peoples, 245
- Foreign language, 69, 154-159; and Linguaphone, 157; and lower grades, 154; and music, 158; and World War II, 154; Hugophone instruction, 157; instruction and radio, 154, 158; recordings for, 156
- Forums, 47, 108, 264
- Fosdick, Harry E., 244
- Franklin Institute, 285
- Free listening, 229
- Free speech, 228-230; and propaganda, 231; and sponsors, 230; appreciation of, 231; classroom teaching, 230-231; network pol

- ical, 229-230; teacher's duty regarding, 230-231
 "Freedom of Opportunity," 123
 "Freedom's People," 142, 224
 Frequency modulation, 4, 178, 334, 347, 383, 406, 413, 418; advantages of, 413; and recordings, 417-418; commercial stations, 413-418; education and entertainment by, 152, 413; for education, advantages of, 414; for education, state needs, 416; for education, uses of, 415-416, 418; for handicapped, 415; future of, 418; San Francisco Board of Education Station, KALW, 417; Schenectady, New York, 152, 347; stations, 334; stations, commercial, 414; stations, extent of, in states, 416; stations, regional, 413; stations, school-owned, 347, 414; subject-areas, 414; University of Michigan, Extension Division, 417; University of Wisconsin, 416
 "Friendly Dragon," 88-89, 306
 "From the Classroom," 110-111
 "Frontiers of Democracy," 329
 "Fun from the Dictionary," 107
 "Gallant American Women," 124
 "Gang Busters," 4
 Garbett, Arthur S., 172
 "Gateways to Music," 171, 175, 249
 General Electric, 279, 413
 Geography, 247-252; and music, 249; classroom methods, 248; integrated with other subjects, 248-249; materials of teaching, 250-252
 "Geography — Then and Now," 248
 Gettysburg Address, 125
 Gielgud, John, 136
 Girling, Betty, 120
 "Golden Legends," 124
 Good speech, definition of, 102
 Gordon, Dorothy, 191
 Gordon, Edgar B., 179-181
 Grade span of radio programs, 94
 Grammar and radio, 149-151
 Grand Canyon Suite, 168
 "Great Novels," 119
 "Great Themes in Poetry," 136
 "Green Hornet," 13
 Grofé, Ferde, 168
 Group listening, 6, 49, 50; importance of, 47
 "Grow in Safety," 318, 319
 Gruenberg, Sidonie M., 120
 "Guiding Light," 3
 Gullan, Marjorie, 109; Verse-Speaking Choir, 109
 Haaran High School, 384
 Haley, Emilie L., 421
Handbook for Listeners, 388
 Handicaps of radio education, 27
 Handicraft, teaching by radio, 188, 191
 Handwriting, 145-147
 Harap, Henry, 240
 Harding, Warren G., 399
 "Harnessing Motion," 282-283
 Harvard University, 136
 Health attitudes, 307-309
 Health, education, 307-313; experts and radio programs, 312; Series, WBOE, 310; vocabulary, 318; WHA, 315
 Hewson, Isabel Manning, 11, 115
 High frequency channels, 407
 "Highways to Health," 310
 Historical events, 256

- History, 252-255; radio aids in teaching, 253; of other countries, 254; of radio, 379-395
 "History Behind the Headlines," 254
 "Ho-Po-Ne Safety Club," 319
 Hogan, J. V. L., 418
 "Home Is What You Make It," 268, 301, 311
 Home listening, 81, 357
 "Home Symphony," 178
 "Hop Harrigan," 3, 357
 Hope, Bob, 4, 11
 "House of Mystery," 358
 Houston, Texas, 188
How to Build a Radio Audience, 388
How to Judge a School Broadcast, 388
How to Use Radio, 389
 Hugophone, and foreign language instruction, 154
 Hullfish, Gordon, 20
 "Human Adventure," 123, 279, 382
 "Hymns of All Churches," 244
 Ickes, Harold L., 403
 Illustrative schedules, 338
 "I'm an American," 134, 142
 "Importance of Zero," 291-293
 "In Our Science Story Today," 283-284
 Indianapolis Public Schools, 187, 207, 315, 339-340, 352
 Individual differences, 96, 364
 Indoctrination, 225-226
 "Information Please," 9
 In-school broadcasting, 80, 108, 127, 197, 213, 346, 349, 350, 415; and second grade, 352; as long-term project, 350; as extra-curricular work, 352; at London, Ontario, 352; by young students, 352; Indianapolis, 352; methods, 348-349, 353; opportunities for, 352-353; production, 328, 353-354; restrictions and possibilities, 350-353; studio for, 349
 In-service training, 328, 415; methods of, 329
 Institute for Democratic Education, 224
 Institute for Education by Radio, 30, 387, 390
 Institute of Oral and Visual Education, 421
 Institutes and conferences, 390
 "Inter-American University of the Air," 224
 "International Round-up of News," 3
 International understanding, 245-247
 Interphone system, 369
 Interpretative dancing, 205
 Interviews, 82
 "Interviews with the Past," 124
 Intervisitation, 328
 "Invitation to Learning," 381
 Issues, controversial, 227
Ivanhoe, 130
 Ives, Burl, 165, 254
 Iowa State College, 119
 "Jack Armstrong," 4, 8, 133, 357
 "Jack Frost and the Magic Paint Box," 174
 "Jacob and Esau," 140
 "Jacob and Rachel," 140
 Jersild, Arthur T., 11
 Jones, Ruth E., 105
Journal, A.E.R. See Association for Education by Radio
 "Journeys in Music Land," 179-181

- Judgment in buying, development of, 239
- Junior Leagues, 187-194, 359, 389
- "Junior Town Meeting of the Air," 49, 229
- "Juvenile Jury," 229
- KALW, San Francisco, 417
- KDKA, Westinghouse Electric Company, 379
- KHJ, Los Angeles, 358
- KQW, San Francisco, 358
- KSAC, Kansas State College, 385
- KSL, Salt Lake City, 11
- KUOM, University of Minnesota, 120, 310
- Kale, Portland, Oregon, 303
- Kane, Eleanora B., 289
- Kaye, Danny, 11
- Kenney, Erle A., 70
- Keith, Alice, 384
- "Keys to Happiness," 177
- Klinefelter, C. F., 18
- Koralites, 109, 133
- "Lady Make-Believe," 118, 128
- "Land Alive," 303
- "Land of the Lost," 11, 358, 382
- Landry, Robert J., 219
- Landseer, Edwin, 193-194
- Language, definition of, 101; importance of, 101; instruction and radio, 102; obscene, 229
- Language arts, creative dramatics, 203; definition of, 101
- Lantern slides, 62-63
- Lazarsfeld, P. F., 397
- League of Women Voters, 242
- Lectures, radio, 400
- "Lest We Forget," 224, 254
- "Let's Draw," 189-191
- "Let's Learn Music," 181
- "Let's Learn Spanish," 156
- "Let's Pretend," 11, 358
- Letters, to sponsors, 61
- Lewiston, Idaho, 110, 141
- Librarians, and classroom radio, 330
- Libraries, and radio, 124, 126, 412; and recordings, 374
- Licenses, 392; renewal of, 391
- Liedtke, Lloyd, 282
- "Light of the World," 244
- Lincoln Park Zoo, 303
- Linguaphone, foreign language, 157
- Listening, 53, 92, 397; as a form of activity, 52; discrimination, 77; habits, survey of, 362; libraries, 412; passive, 44, 116; purposeful, 45; 52; rooms, 338; skill, 46; training in, 44-46
- Literature, and radio, 78, 116, 118, 121; and television, 425; nonliterary programs, 122
- "Little Orphan Annie," 8, 13
- "Little Red School House," 20, 385
- "Lives of Scientists," 279
- Local and international events, 25
- Local programs, 93
- Lomax, John A., 165, 254
- London, Ontario, 110, 352
- "Lone Ranger," 9
- "Look and Listen," 188
- Loud-speaker, 369
- Lumley, F. H., 225
- "Lux Radio Theatre," 357
- "Lydia's Story to Order," 358
- M.B.S. *See* Mutual Broadcasting System
- McConathy, Osborne, 177
- Mack, Nila, 11, 115
- MacLeish, Archibald, 134, 253
- McNerney, Marcella, 296
- Maddy, Joseph, 177-178
- "Magic Bookshop," 125, 342

- "Magic Harp," 170
 "Magic Lantern," 11
 Malone, Ted, 135
 "Man Without a Country," 120
 Manchester, Alice W., 420
 Manuals, purpose of, 64. *See*
 Teacher's manuals
 Maps, 62
 "March of Science," 279
 Marconi, 379
 "Masterpieces of Literature," 136
 Master-teacher plan, 22, 148, 298,
 396, 398-400
 Master teachers, demonstrations
 by, 399; difficulties, 399; rein-
 forces traditional practice, 399
 Maturity levels, 49
 Mayflower Compact, 125
 Mental set, 44
Merchant of Venice, 141
 Methods, of production, 353; of
 radio broadcasts in safety educa-
 tion, 320; of teacher training,
 327; of teaching science with
 radio, 278-285; of teaching social
 studies by radio, 231; of using
 radio newscasts, 258; used to
 train the listener, 44-46
 Metropolitan Museum of Art, 186, 425
 Metropolitan-operated stations, 406
 Metropolitan Traffic Safety Coun-
 cil, 319
 "Mexico and the Central American
 Republics," 250-252
 Michaelis, Adrian, 169
 Michigan State College, 170, 176
 Miles, J. Robert, 421
 "Mr. District Attorney," 4
 "Mr. and Mrs. North," 4
 Mock broadcasting. *See* Simulated
 broadcasting
 Montclair State Teachers College,
 134
 "Mother Goose in Health Land,"
 319
 Motivation, 42, 63
 Museum of Fine Arts, 188
 Museum of Modern Art, 186
 Museums, art, 187
 Music, 163-184; and appreciation
 of one's country, 176; and art,
 195; and democracy, 164; and
 foreign language, 158; and in-
 dustrial companies, 164; and
 international understanding, 175;
 and radio, 165; and school chil-
 dren, 164; and tolerance, 175;
 appeal to children, 358; apprecia-
 tion, 76, 164-176; band, 177-
 178; bridge to other activities,
 172; by radio for instruction, 166,
 179; by radio, quality of, 164;
 classical and semi-classical, 164-
 165; of foreign lands, 158; par-
 ticipation programs, 176-181;
 programs as educational tool,
 170; recordings in instruction,
 374; recordings of classical, 164,
 383; skills, 176; station WQXR,
 164; visual aids, 167; vocal, 178-
 182
 "Music in the Air," 177, 358
 "Music for Children," 358
 "Music for the Family," 3
 "Music and the Middle East,"
 175
 "Music of the New World," 224,
 249
 "Musical Pictures," 194
 "Music Is Yours," 91-92
 Mutual Broadcasting System, 170,
 356, 381-382, 425

- N.B.C. *See* National Broadcasting Company
- "N.B.C. Presents," 381
- National Advisory Council for Radio in Education, 386; publications of, 387
- National Art Society, 186
- National Association of Broadcasters, 363, 389, 403; code, 392
- National Association of Educational Broadcasters, 390
- National Broadcasting Company, 166, 178, 224, 242, 243, 254, 255, 310, 356, 381-382, 386, 425; first network, 380; religion, 243; the Red and the Blue, 380; "University of the Air," 381
- National Committee on Education by Radio, 404; organization of, 386
- National Council of Teachers of Mathematics, 288
- National cultures, 246
- National Education Association, Department of Superintendence, 220
- National networks, 4, 28, 380, 407
- National poetry programs, 135
- National Research Council's Committee on Scientific Aids to Learning, 141
- "Nation's School of the Air," 381
- Natural science, 300-304; adjustment to curriculum, 301; broadcasts, 303
- Nature study, 300-307; objectives of, 302-303; by radio, 301-302; by radio as a supplement, 306; illustrative, 303-307
- Network broadcasting, establishment of, 379
- Network policy on free speech, 229
- "New China," 202
- "New Horizons," 254-255
- "New World a-Comin'," 224
- Newbery, John, 425
- News, 255; advantages of radio for, 257; broadcasts, 84, 255; commentaries, 358; time devoted to broadcasting of, 257; vocabulary of, 257
- "News Interpreted for Children," 415
- News Letter*, 390; a source of recordings, 421
- "News of the Week," 414
- Newscasts, 250; activities with, 258-260; adjusting to the curriculum, 259; methods of using, 258-259
- Newspapers, 59, 130; radio as rival of, 256-257
- Nickerson, Paul, 134
- Niles, John J., 254
- "No Happy Ending," 320
- Norris, Frank C., 143
- Note-taking, 52, 56-57; arguments for and against, 57
- Nutrition programs, 311
- Oakland, California, organizes first broadcast, 384
- Objective tests, 43
- Objectives of radio education, 19, 20, 82, 86, 212
- O'Brien, Mae, 120
- O'Brien, Wm. A., 310
- "Of Men and Books," 122, 381
- Office of Coordinator of Inter-American Affairs, 143
- "Oh, Teacher!" 123
- Ohio School of the Air, 385
- Ohio State University, 30, 224, 387

- Omaha Public Schools, 270
 "On a Note of Triumph," 134, 202
 "Once Upon a Time," 121-122
 "One Man's Family," 4, 424
 "Open Your Eyes," 279
 Oral expression, 101
 Oral reports, 59
 Oregon School of the Air, 385
 Orson Welles-Mercury Theatre, 141
 "Our America," 254
 "Our American Heritage," 125
 "Our Food Factories," 306
 "Our Foreign Policy," 381
 "Our Nation's Shrines," 254
 "Our Speech," 102
 Out-of-school listening, 53, 350, 356, 362, 364; analysis, 332; and commercialism, 363; discrimination, 359-363; goal of teacher, 359; preparation and follow-up, 359-360, 362; television, 427; values of, 360
 "Outcasts of Poker Flat," 120
 Outlines of radio programs, 247
 "Pacific Story," 202, 255, 381
 "Pageant in the Sky," 306
 "Painter of Animals," 193
 Palmer, E. Lawrence, 303-304
 Parent-Teacher Associations, 170, 219, 319, 359
 Parent's responsibility, 6, 8
 Passive listening, 44, 52, 116
 Patent medicine advertising, 238
 "Paul Revere's Ride," 134
 "People's Platform," 229, 381
 Pepper, Claude, 265
 Perera, Lydia, 115
 Phonograph records, 368
 Physical activity, 56
 Physical education, 313-317; and sports, 315; broadcasts, 315; Cleveland, 315; creative dancing, 205; forms of broadcasts, 314; primary grades, 316; objectives, promoted by radio, 314
 Physical environment, of broadcasts, 47
 Physical science, 275-297; methods, 278; problems, 277; and social progress, 275
 Physics of radio equipment, 80
 Pictures of famous paintings, 187
 "Pied Piper of Hamelin," 130
 "Pilgrimage of Poetry," 135
 "Planning Tomorrow's Schools," 412
 Playback machines, 367
 "Plot to Overthrow Christmas," 134
 "Poet Looks and Laughs," 135
 Poetry, 132-137; dramatic, 134; programs, 134-135
 Political issues, 264
 Political leaders, 266; use of radio by, 265
 Politics, national and international, 266
 "Pony Express," 86
 Portable radio receivers, 367
 Portland, Oregon, programs, 319, 340-342
 Pre-auditing, 373-374
 Preparation, activities, 41, 53; and follow-up, art broadcasts, 187; by pupils, 41; for out-of-school listening, 362; for radio programs, 40, 42, 88, 90, 91, 332
 Preston, Mary I., 8
 "Primary Rhythmics," 207, 315
 Printed materials, 64
 "Private Showing," 425
 Programs, adjusting to curriculum,

- 79; advance knowledge of, 332; analysis of out-of-school programs, 332; first classroom radio programs, 384; sustaining, 402
- Project method, 73
- Pronunciation, 105-106
- Propaganda, 222, 225, 227, 231, 259; instruction in techniques of, 227; recognition of, 226, 228
- Prose, 114-132
- Providence Public Schools, 175
- Psychiatry and radio, 310
- Psychology and radio, 6, 12, 307-308
- Public address system, 81, 110, 367
- Public interest, convenience, and necessity, 18, 237, 391, 402
- Public libraries, and radio, 124-126
- Public opinion, 218, 264
- Public relations, 269
- Public service agencies, 242
- Public Service Responsibility of Broadcast Licensees*, 392
- Pupil activity, 53-55
- Pupil participation, 53, 56, 269
- Pupil preparation, 41
- Pupils' judgment in buying, 239
- Pupils' radio programs, 346
- Purposeful listening, 52
- Questions, as follow-up activity, 59
- "Quiz Kids," 4, 123, 358
- Quiz programs, 123, 318, 358
- Rachford, Helen F., 363
- Racial tolerance, 223
- Radio Act of 1927, 391
- Radio, acquaints the child with his community, 266; activities and social studies, 232; advantages, 23-24, 373-374; advantages for news, 257; and appreciation for poetry, 132-133; and art excursions, 194; and art exhibits, 189; and commercialism, 400; and consumer education, 237-242; and creative activities, 200; and creative art, 188-191; and curriculum, 28; and drill subjects, 63; and fine music, 165; and first steps to reading, 115; and foreign language instruction, 154; and grammar, 149; and handwriting, 145-147; and indoctrination, 225; and international understanding, 245-247; and lending libraries, 119; and newspaper cooperation, 188; and newspapers, 130; and personality, 222; and propaganda, 225-231; and public opinion, 218-223, 264; and safety education, 318; appearances by school children, 346; appreciation, 75, 76-83, 84-85, 350; appreciation unit, 76; as a classroom method, 37-38; as a dynamic social force, 217; as a medium for drama, 139; as a mold of public mores, 247; as a motivation for reading, 117; as a preparation for reading, 114; as a socializing experience, 208, 350; as a standard for speech, 104; as a supplement, 38; as a tool of instruction, 398; as an aid to spelling, 147-149; as an aid to exploring the world, 5; as entertainment, 397; broadcasting and creative drama, 198; broadcasts of teachers' meetings, 329; business interests, 400; clubs, 360; competition to reading, 116-117; controversy, 396-407; contribution to school and com-

- munity, 268; contribution to teaching method, 38, 87; control of, 6, 403; cooperation of broadcasters and educators, 30, 401; coordinator, qualifications of, 326; courses in art, 188-191; curricula, 95; disadvantages of, 26; drama, 105; drama, criticism of, 141; drama, and changes in progress, 142; educators as broadcasters, 399; effect on reading habits, 117; extent of, in schools, 366; evaluation, 44-45, 60; flexible, 4-5; future of, 410-429; government-controlled, 4, 404-405; guide, 81, 390; history, 379-395; immediacy of, 202; impetus for foreign language study, 158; in teaching language, 102; interpreting education to the public, 269; nature study broadcasts, 302; new techniques, 407; news broadcasts, 84; noncommercial, 22-23; paraphernalia, 366-375; professional personnel, 399; reading programs, promotion of, 121; receivers, 367, 369; science and social change, 276; scrapbooks, 141; speech, 104, 107; stimulus to reading, 115, 127; storytellers, 115, 357; terms, definition of, 81; training, needed by teachers, 30, 401; understanding and knowledge by means of, 218; use of, by Senators, 265; use of, in creative drama, 199; vocal instruction, 178-182; workshops, 141, 327, 329-330, 350, 401; writing, 210
- Radio Arts Guild*, 421
- Radio Bibliography*, 388
- Radio Bulletin*, 337-338
- Radio Corporation of America, 379, 380, 412, 413; foreign language instruction, 157
- Radio Council of the Chicago Public Schools, 283, 303, 363, 366, 389
- Radio Councils, formation of, 388
- Radio Daily, 390
- Radio and Education*, 387
- Radio education, advantages, 23; and entertainment, 396; cooperation of the classroom teacher, 325; deficiencies of, 411; definition, 16, 17; director, 325; expense of, 29, 410; federal, 404-405; for the handicapped, 415; handicaps of, 27; handicraft teaching, 188, 191; indifference and animosity toward, 325; issues of, 396; objectives of, 19, 20, 21, 22, 82, 86; problems of, 25; responsibility for, 412; showmanship needed, 401
- Radio in Informal Education*, 388
- Radio Institute for Teachers, 329
- Radio Mirror*, 390
- Radio music, and international understanding, 175; and the school child, 164; festival, 181; for instructional purposes, 166; quality of, 164
- Radio News Letter*, 337
- Radio program, content, 332; as education, 346, 397; early, 400; for pupils, 346; frequency of, 331; grade span, 94; offering speech experience, 103; on dancing, 206; on religion, 244; outlines of, 247-248; selection of, 87, 331; uses, 25, 29, 37, 50-51, 382
- Radio Programs for Student Listening*, 387, 390

- Radio and Public Service*, 389
 Radio receivers, portable, 367
Radio: Some Exploratory Studies, 388
 "Ranger Mac," 88-89
 Rathbone, Basil, 136
 Reading, 114-144; comparison with radio listening, 117; follow-up activities, 126; in poetry and drama, Studidiscs, 125; lists, supplementary, 330; radio as a preparation for, 114-115; radio as a stimulus to, 118, 120-126, 127; radio provides motivation, 117; readiness, 114
 "Reading Is Adventure," 414
 Recorders, tape, 419-420; types of, 368
 Recordings, 3, 81, 104, 110-112, 124, 136, 139, 142, 156-157, 279, 311, 334, 370, 374-375, 412, 417, 419-421; advantages of, in education, 372; and foreign language instruction, 156; and libraries, 374; and speech training, 112; catalogues, 421; cataloguing and filing, 330, 420; classical music, 164; definition of, 370; Detroit Public Schools, 420; discs, 368; efforts to encourage use of, 374; equipment, 368, 419; libraries of, 374, 420; problems of, 420; sources of, 420-421; techniques of utilization, 370-375; to teach voice and music, 374; types of, 368
 Recreation in out-of-school listening, 350
 Red Network. *See* National Broadcasting Company, 380
 Reed, Walter, 279
 Regional, interests, 388; networks, examples of, 92, 389, 405-406; programs, 92-93; speech patterns, 104
 Regulation of radio, 390
 Reid, Seerley, 26, 29, 366
 Religion, policy of national networks regarding, 243
 Religion and radio, 242-245
 Religious dramatizations, 243
 Religious literature, 245
 Religious music, 243
 "Rhythm and Games," 207, 316-317
 "Rhythmic Activities," 207
 Rhythmics and dancing, 205
 "Road of Life," 3
 Rochester Public Library, 124, 125
 Rochester School of the Air, 176, 188, 280, 284, 306-307, 342-343
 Rocky Mountain Radio Council, 93, 212, 388, 389, 406, 417
 "Romance of Helen Trent," 3
 Rooms for listening, 338
 Roosevelt, F. D., 263
 Rosten, Norman, 139
 Rowland, Howard, 12
 Rural schools, 51, 401-402
 "Safety Drive Programs," 319
 Safety education, 317-321
 "Safety Patrol Program," 319
 "Salt Lake Tabernacle Choir," 244
 "Save-a-Life Forum," 318
 Scarsdale Parent-Teachers Association, 8
 Schedule, sample radio, 336
 Schedules, 402; administrative problem, 330-331; and commercial interests, 402; illustrative, 336-338; information on, 126, 334; newspaper, 334

- Scheduling, 93, 330, 332, 333; bulletin boards, 336; frequency of broadcasts, 331; problems of, 330-336; procedure, 333; professional magazines, 336
 School Broadcast Conference, 390
 School broadcasting, 348
 School library and classroom radio, 330
School Life, 421
 "School Music Hour," 175
 School-owned stations, 383
 "School Spotlight," 193
 "School Time," 170
 "Schoolcast," 257
 Schools of the air, 20, 96
 Schwalbach, James A., 191
 "Science Frontiers," 146
 "Science Is Fun," 285
 Science, in elementary grades, 275-276; methods of teaching with radio, 278-285; programs, 56, 277, 280, 284
 "Science Story Teller," 285
 Science teacher and radio, 276
 "Science Time on the Air," 280
 "Science Time over WHAM," 280, 306
Scientific Aids to Learning, 141
 Scientists and radio, 76
 Scouts, 92, 359
 Script exchange center, 124, 406
 Script and Transcription Exchange, 248-249, 320
 Script writing, teachers' participation in, 325
 Scripts, written by pupils, 347
 "Sea Hound," 143
 Seating arrangement, 49
See and Hear, 58, 390
 "Senator Claghorn," 105
 Senators' use of radio, 265
 Sensory aids, 62
 Serials, 9, 138, 268, 308; children's, 120
 Series, advantages of, 258
 Service agencies, 242
 Seybold, Arthur M., 372
 "Shadow," 13
 Shakespeare, 111
 "Sherlock Holmes," 4
 Short stories, 212
 Short-wave broadcasts, 247
 Showmanship, 42, 44, 219, 400
 Simulated broadcasting, 172, 200, 348-349
 "Sing Along with the Landt Trio," 179
 "Singing Lady," 11, 133
 Skinner, Otis, 139
 Slang, 105
 "Sleeping Beauty," 128-129
 Smithsonian Institution, 387, 426
 Social behavior, 81
 Social-demands curriculum, 71
 Social studies, and radio, 217; and responsibility of the teacher, 222; curriculum, 219-220; curriculum, topical sequence in, 220; definition, 217-218; importance of radio to, 217-218; methods of teaching with radio, 231-234; objectives of, 221
 Sociology and radio, 6
 Sockman, Ralph W., 244
 "Song of America," 254
 Sound system, 366-367
Source Bulletin, 390
 Spaeth, Sigmund, 177
 Spanish, Decca course, 157
 "Speak Up, America," 103
 Speech, 101-113; and recordings,

- 112-113; arts and public address system, 110; correction, 102-103; defects, 103; definition, 101, 102; habits, 111; in primary grades, 103-104, 108; in upper elementary grades, 108; patterns, 105; radio provides standards for, 104-105; regional, 104; tools, 102; training, 101-104; training and wire recorder, 420; unit on, 107-108
- "Speech Clinic of the Air," 103
- Spelling and radio, 147-149
- Spiritual understanding, 247
- Sponsors, 230, 238-239; letters to, 61; control of free speech, 230
- Spontaneous programs, 353
- Standardization, 218
- Standard Oil Company of California, 167, 385, 403
- Standard School Broadcasts, 147, 167-170, 212, 332, 402-403; and art, 192; commercial program, 402
- Standards, 5, 18, 95; Federal Communications Commission, 392; for advertising, 363; for programs, formulation by pupils, 360-363
- Stanford University, 8
- State College stations, 383
- State Department of Education of Connecticut, 385
- State Departments of Education, 29
- State university-owned stations, 383
- Stations, noncommercial, 400
- Sterner, Alice P., 356-357, 361
- Steve, Fannie M., 207, 317
- Stereotyped speech, 105
- Stereotypes, 223
- "Stories in Rhythm," 133
- "Story Hour," 110, 118
- Storytelling, 115, 357
- "Story Time Program," 212
- Studidiscs, 124, 139
- Studio for in-school broadcasting, 349
- Summers, H. B., 17
- "Superman," 4
- Supplementary aids, 64
- Supplementary reading lists, 330
- Survey of children's radio preferences, 9
- Survey of listening habits, 362
- Sustaining programs, 402
- "Switzerland, Center of Peace," 89-91
- "Symphonies for Youth," 170, 358
- "Take It or Leave It," 358
- Talent of school children, 347
- "Tales of the Foreign Service," 381
- "Tales Old and New," 120
- Tape recorder, 369, 420
- Teacher-training methods, 325-330
- Teachers', activities during broadcast, 50, 57-58; duty regarding free speech, 230; manuals, 53, 58, 64, 88-92, 147, 171, 194, 334-336; meetings broadcast, 329; need of radio training, 401, 411-412; objectives, 31; opinions regarding radio, 22, 38; participation, 50, 55; participation in script writing, 325; preparation for television, 425
- Teaching procedure, commercial merits of, 363
- Teaching pupils to listen, 23, 43-44
- Teaching, unit plan of, 75-76
- Telecasts, 424
- Television, 4, 8, 31, 398, 406, 407,

- 410, 418, 421-429; advantages of, to education, 426; and art, 425-426; and children, 423; and documentary broadcasts, 424; and literature, 425; and Metropolitan Museum of Art, 425; and "One Man's Family," 424; and Smithsonian Institution, 426; and University of Iowa, 422; and W9XK, 422; and WRGB, 421, 425; auxiliary stations, 422; color, 422; course in educational, 425; difficulties in, 426; dramatics, 426; equipment, 421-422; evaluation of, 427; future of, in education, 421; industrial, 422; influence upon behavior, 427; networks, 421-422; out-of-school, 427; potential uses of, 422; problems in use of, 421, 426-427; profits from radio, 427; psychological advantages of, 422; psychological factors, 423; responsibilities of program producers, 424; teachers' preparation for, 424
- "Terry and the Pirates," 3, 357
- Tests, objective, 43
- Texas School of the Air, 93, 279, 342, 385, 389, 406, 414
- Texas State Network, 389
- "Thin Man," 4
- "This Is My America," 319
- "This Is My Best," 119, 357
- "This Land We Defend," 249
- "This Week in Nature," 303
- "Three—A Safety Man," 318
- Three-step method, 40
- Time for preparation, 41
- Time zones, 334
- "Today's Children," 3
- Trailside Museum, 303
- Training pupils for discussion, 233
- Training teachers to use radio, 325-330
- Transcriptions, definition, 370; U. S. Office of Education, 374. *See* Recordings
- "Treasure Trails in Art," 192
- "Treasures in Books," 415
- "Treasures Next Door," 118, 124
- Trends, continuation of, 410
- "Trip to the Zoo," 303
- Tucker, Madge, 115
- Turntable, 367, 420
- "Twenty Questions," 358
- Twenty Thousand Leagues Under the Sea*, 129
- Types of curricular organization, 68, 72
- Types of electrical transcriptions, 372
- Types of units related to radio education, 74
- "Ugly Duckling," 127
- "Uncle Bill," 115
- "Uncle Dave's Safety Club," 318-319
- "Uncle Don," 3, 115
- Understanding and knowledge by radio, 218
- Uniformity, 218
- Unit plan of teaching, 74-75
- Unit organization, 76-77, 83, 128-129; evaluation of, 85
- United Parents Association of New York City, 9
- United States Bureau of Census, 11
- United States Department of Agriculture, 242, 311
- United States Department of Health, 311

- United States Junior Chamber of Commerce, 123
- United States Office* of Education, 138, 224, 374, 387, 388; *FM for Education*, 415-416, 418
- Units, 76-77, 128-129; evaluation of, 83-85
- University Broadcasting Council, 387
- University of Chicago, 8, 123
- University of Florida, 102
- University of Iowa, 103, 120, 135, 202, 358; and television, 422
- University of Michigan, 177
- University of Minnesota, 120, 310
- University of Nebraska, 125
- University of Oklahoma, 155, 257
- University of Wisconsin's School of the Air, 102, 250, 282, 315, 416-417. *See* WHA
- Utilization of radio, educational groups, 26, 28
- Variety* showmanship survey, 219
- Verne, Jules, 129
- "Victor Records," 171
- "Visitor," 352
- Visual aids, 49, 52, 55, 61-62, 140-141, 260, 312-313, 320, 330, 359, 398, 423; and radio, 260; art broadcasts, 187; commercial, 402; music, 167; in teaching drill subjects, 63; stimulated by war training program, 411
- Vocabulary, and radio, 116, 149; consumer education, 241; growth, 107; health, 312
- Vocal music, instruction by radio, 179; by radio, value of, 181
- Vocational guidance, 31, 81
- "Voice of Poetry," 137
- Voice quality, 107
- "Voice of Young Democracy," 415
- Voting and radio, 264
- WAAB, 120
- WBOE, Cleveland, 107, 145, 148, 207, 288, 296-297, 310
- WFBR, Baltimore, 289
- WGN, Chicago, 381
- WGY, Schenectady, 379
- WHA, University of Wisconsin, 135, 189-191, 207, 250, 278, 281, 315, 316, 379-380, 385, 416
- WHAM, Rochester, New York, 280
- WJZ, Newark, New Jersey, 379
- WKRC, Cincinnati, 319
- WLS, Chicago, 170, 310, 319, 385
- WLW, Cincinnati, 385
- WMAQ, Chicago, 385
- WMCA, New York City, 415
- WNAD, University of Oklahoma, 155, 358
- W9XK, television, 422
- WNYC, New York City, 154, 186, 269
- WOAC, Oregon State College, 383
- WOI, State College of Iowa, 119-120
- WOR, Newark, New Jersey, 381
- WOSU, Ohio State University, 224, 383
- WQXR, New York City, 156, 164
- WRC, Washington, D.C., 379
- WRGB, Schenectady, 421, 425
- WRUF, University of Florida, 102
- WSB, Atlanta, Georgia, 385
- WSUI, University of Iowa, 120, 135, 212, 358
- WWJ, Detroit, Michigan, 379
- Wallenstein, Alfred, 170
- Waller, Judith, 385

- "War of the Worlds," 140
 "We March with Faith," 270
 Welles, Orson, 140-141
 Westinghouse Electric Company,
 164, 279, 379
 Whan, Forrest L., 10
 "When a Girl Marries," 3
 "Who's Who at the Zoo," 303
 Wicker, Irene, 115
 Wilbur, Ray Lyman, 386
 "Wilderness Road," 202
 Wiles, Kimball, 53, 60
 Willis, Frederic, 17
 "Wings over the Americas," 306
 Wire recorder, 369, 419, 420
 "Wisconsin Stories," 203
 Woefel, Norman, 53, 60
 "Woods, Water, and Wildlife,"
 305-306
 Word-study, 128
 "Words and Music," 135
 "Words without Music," 134
 Workshops, radio, 141, 327, 329-
 330, 350, 401
 World News, 259
 "World and America," 142
 "World Is Yours," 387
 "World's Great Novels," 202
 Wrightstone, J. Wayne, 19
 Writing, 145-151
 Writing suggested by radio, 145-
 146, 211
 Wyatt, Robert, 41
 Y.M.C.A., 92
 Y.W.C.A., 92
 "You and Your Government," 387
 "Young Experimenters," 278, 281
 "Your Health," 310
 "Your Health and Safety," 311
 "Your Health and You," 310
 "Your Science Story Teller," 277,
 283
 "Your Story Parade," 342
 "Your World Tomorrow," 425
 "Youth Looks to the Future," 229,
 358
 "Youth Looks at the News," 257,
 358
 "Youth Takes a Stand," 229
 Youthbuilders, 415

